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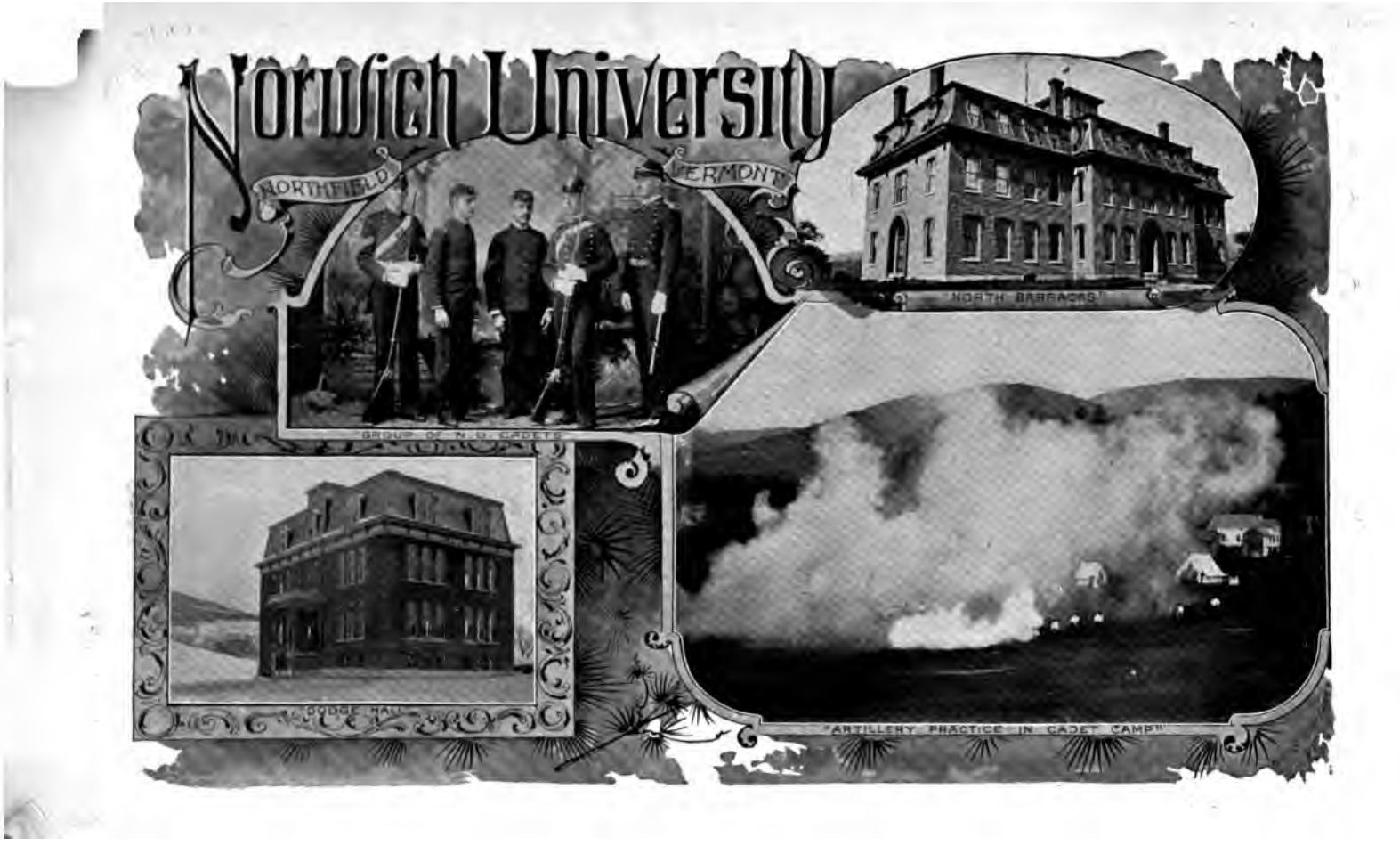
Norwich University
NORTHFIELD
VERMONT
NORTH BARRACKS
GROUP OF N. U. CADETS
DODGE HALL
"ARTILLERY PRACTICE IN CADET CAMP"

Sixtieth Annual Catalogue

—OF—

NORWICH UNIVERSITY.

Military, Scientific and Classical.

NORTHFIELD, VT.

MONTPELIER, VT.
WATCHMAN PUBLISHING COMPANY.
1864

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CHARLES DOLE, A. M.,	"	"	"	"		1894, Northfield.
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WILLIAM M. RUMBAUGH,	"	"	"	"		1898, New York City.

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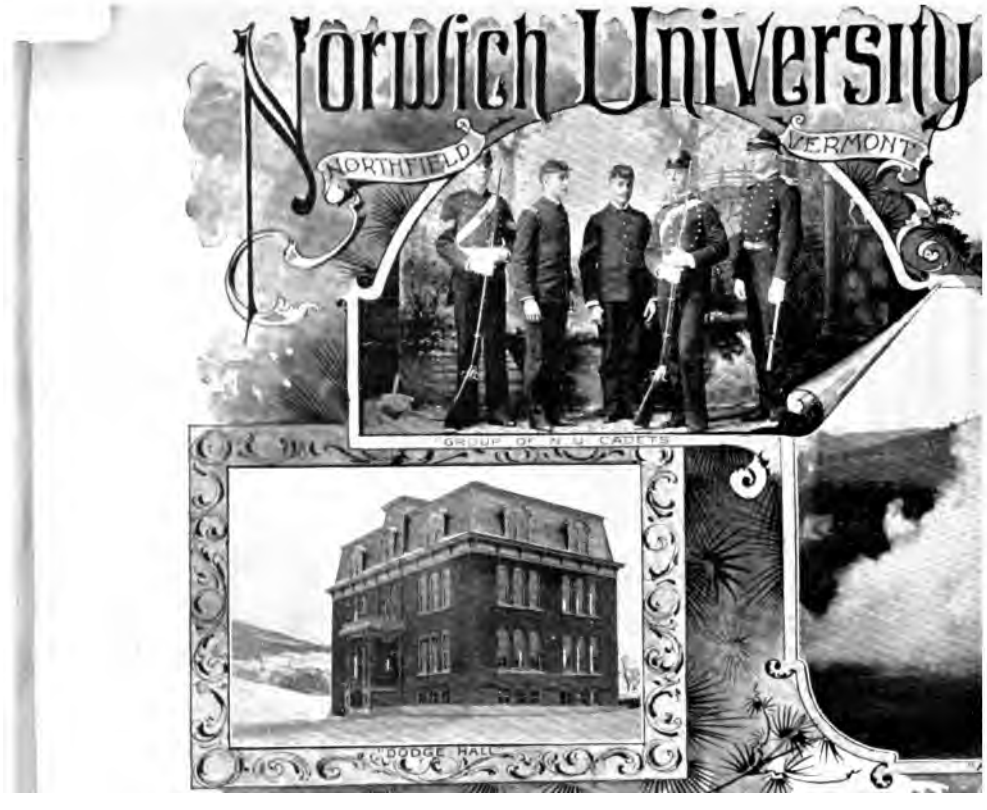
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Requirements for Admission.

All candidates for admission to the University must be at least fifteen years of age, and must present satisfactory evidence of good moral character.

TO THE COURSES IN CIVIL ENGINEERING, CHEMISTRY, AND SCIENCE AND LITERATURE.

Candidates are examined in the following studies:—

MATHEMATICS.—Arithmetic; Algebra to Quadratics; Geometry; First four books, Davies' Legendre or an equivalent.

ENGLISH LANGUAGE.—Grammar; Composition, with special attention to punctuation and the use of capitals.

GEOGRAPHY.—Physical and Political Geography.

HISTORY.—History of the United States.

TO THE COURSE IN ARTS.

In addition to the examination in Mathematics, English Language, Geography and History, laid down for the courses in Science, examinations are as follows:—

LATIN.—Cæsar's "Commentaries," four books, or Sallust's "Cataline"; Virgil's "Æneid," six books; Cicero, four orations.

GREEK.—Xenophon's "Anabasis," four books, or one hundred pages Goodwin's Greek Reader; Homer's "Iliad," two books.

Graduates from approved High Schools are admitted upon certificates.

Candidates not fully prepared in all the requirements may be conditioned for one term.

ADVANCED STANDING.

Candidates for advanced standing must pass satisfactory examinations in the studies already completed by the class which they propose to enter, and in those required for admission. Those, however, from other colleges should bring certificates of honorable dismissal, and marks showing standing. The latter may, on approval by the Faculty, be taken in lieu of examinations.

Courses of Instruction.

COURSE IN MILITARY INSTRUCTION.

For all Students throughout the four years. Exercises, Drills or Lectures every day at 4 o'clock P. M.

FALL TERM.

Settings Up, Calls, Manual of Arms, School of the Company and Extended Order Drill, Bayonet Exercises indoors in bad weather.

WINTER TERM.

Broadsword and Sabre Drill, Manual of the Sword, and Fencing. Juniors and Seniors, Lectures on Military Engineering or Military Science and Art of War.

SPRING TERM.

Artillery Drill, Rifle Practice, Battalion Drill, Ceremonies, Signaling, Lectures on Customs of the Service, Camping, and Practice Marches.

The Cadets are at all times under military discipline, and strict observance of military customs is required.

Cadets are detailed as Adjutant, Officer of the Day, Guard, etc., in their turn, and are instructed in making out the different kinds of military reports; and are trained in the duties incident to field or garrison.

Military duties and exercises are so arranged as not to occupy the time that would otherwise be devoted to study. They are attended to at those hours which are generally passed by students in idleness, or devoted to useless amusements, for which they are made a pleasant, healthful and profitable substitute. They develop that bearing and those

Military training prepares a young man's body, as discipline prepares his mind, to meet, with dignity and coolness, the emergencies sure to arise in his life, whatever his profession may be, and in moments of excitement or danger gives him that firmness and self-control that characterize the gentleman.

Norwich University numbers among its graduates many names which stood high in the profession of arms during the war with Mexico and the War of the Rebellion, and at the present time many of her graduates are serving with distinction as Officers of the National Guard and the Regular Army of the United States.

Examinations are held in tactics, orders, duties and customs of military service, to insure familiarity with them.

Courses of Study.

Four regular courses have been established, as follws:—

I. A course in Civil Engineering.
II. A course in Chemistry.
III. A course in Science and Literature.
IV. A course in Arts.

The courses in Civil Engineering and Chemistry have a distinctly practical bearing, and give a thorough training for the technical professions.

The course in Science and Literature is intended for such as may not wish to pursue a full course in Mathematics, or one for a distinctly scientific profession, and is designed to furnish a liberal preparation for the professions.

Each of these courses extends through four years, and is intended to give the student a liberal culture.

Changes are made in the course in Chemistry to meet the wants of students preparing for Medicine and Pharmacy.

Courses in Science.

FRESHMAN YEAR.

FOR ALL COURSES EXCEPT THE COURSE IN ARTS.

NOTE.—The figures after each subject indicate the number of recitations per week, or its equivalent.

FALL TERM.—Algebra, 5; French or German, or Latin, 5; Inorganic Chemistry, 5, (text, 3; laboratory, 2); Rhetoric, 2; Free Hand Drawing, 6; English, 1.

WINTER TERM.—Geometry, 5; French or German, or Latin, 5; Inorganic Chemistry, 5, (text, 3; laboratory, 2); Rhetoric, 2; Lettering, 3; Tinting and Shading, 3; English, 1.

SPRING TERM.—Trigonometry, 5; French or German, or Latin, 5; Inorganic Chemistry, 5, (text, 3; laboratory, 2); Rhetoric, 2; Mechanical Drawing, 6; English, 1.

I. THE COURSE IN CIVIL ENGINEERING.

Leading to the Degree of Bachelor of Science in Civil Engineering.

SOPHOMORE YEAR.

FALL TERM.—Analytical Geometry, 5; German or French, 5; Mechanics and Heat, 5; Descriptive Geometry, 3; Descriptive Drafting, 6; English, 1.

WINTER TERM.—Differential Calculus, 5; German or French, 5; Electricity and Magnetism, 5; Descriptive Geometry, 3; Shades and Shadows, Linear Perspective, and Isometrical Projection, 6; English, 1.

SPRING TERM.—Integral Calculus, 3; Land Surveying, Leveling, and Field Work, Use and Adjustment of Compass, Transit, and Level, 6; (text, 2; field work, 4); German or French, 5; Acoustics and Optics, 5; Detail Drawing, Tracing and Blue Prints, 6; English, 1.

JUNIOR YEAR.

FALL TERM.—Mechanics of Engineering—Statics and Dynamics, 5; Geology, 5; Colored Topography, Pen Topography, and Plotting of Surveys, 6; Advanced Surveying—Topographical, Municipal, and Geodetic, 6; (text, 2; field work, 4); Engish, 1.

WINTER TERM.—Mechanics of Engineering—Materials, 5; Blow-pipe Analysis and Determinative Mineralogy, 4; Qualitative Analysis, 6; Theory of Trusses and Arches, 2; Graphics of Trusses and Arches, 6; English, 1.

SPRING TERM.—Bridge Stresses, 3; Stone Cutting, 2; Meteorology, 2; Mechanics of Engineering—Hydraulics, Retaining Walls, Masonry Dams, 3; Botany, 3; Drawing—Bridge Stresses, 4; Stone Cutting, 2; English, 1.

SENIOR YEAR.

FALL TERM.—Commercial Law, 5; Metallurgy, 2; Bridge Designing, 2; Railroad Engineering (curves, turnouts, and practical location of railway), 8; (text, 2; field work, 6); Drawing—Railroad Maps, 4; English, 1.

WINTER TERM.—Constitutional or International Law, 5; Hydraulic and Sanitary Engineering, 4; Civil Engineering—Materials of Engineering, Foundations, Canals, Highways, 5; Drawing—Design of Bridges, 6; English, 1.

SPRING TERM.—Spherical Astronomy—Determination of Time, Latitude, etc., 3; Contracts and Specifications, 2; Political Economy, 5; Hydrographic Surveying 2; Railroad Engineering, 3; Preparation of Thesis, 5.

II. COURSE IN CHEMISTRY.

Leading to the Degree of Bachelor of Science in Chemistry.

SOPHOMORE YEAR.

FALL TERM.—French or German, or Latin, 5; Mechanics and Heat, 5; Qualitative Analysis, 15; English, 1.

WINTER TERM.—French or German, or Latin, 5; Electricity and Magnetism, 5; Blow-pipe Analysis, 10; Qualitative Analysis, 10; English, 1.

SPRING TERM.—French or German, or Latin, 5; Acoustics and Optics, 5; Qualitative Analysis, 15; Land Surveying, 6, (text, 2; field work, 4); English, 1.

JUNIOR YEAR.

FALL TERM.—Geology, 5; Organic Chemistry, 2; Gravimetric Analysis, 15; Zoology, 3; English Literature, 2; English, 1.

WINTER TERM.—Organic Chemistry, 2; Gravimetric Analysis, 15; English Literature, 2; English, 1.

SPRING TERM.—English Literature, 2; Organic Chemistry, 2; Volumetric Analysis, 15; Botany, 3; English, 1.

SENIOR YEAR.

FALL TERM.—Commercial Law, 5; Metallurgy, 2; Toxicology, 10; Medical Chemistry, 5; Psychology, 5; English, 1.

WINTER TERM.—Constitutional or International Law, 5; Water Analysis, 10; Agricultural Chemistry, 10; Logic, 5; English, 1.

SPRING TERM.—Political Economy, 5; Gas Analysis, 10; Thesis, 5; Assaying, 4.

III. COURSE IN SCIENCE AND LITERATURE.

Leading to the Degree of Bachelor of Science.

SOPHOMORE YEAR.

FALL TERM.—Analytical Geometry, 5; French or German, or Latin, 5; Mechanics and Heat, 5; Ancient History, 3; English Literature, 2; English, 1.

WINTER TERM.—French or German, or Latin, 5; Electricity and Magnetism, 5; Calculus, 5; Medieval History, 3; English Literature, 2; English, 1;

SPRING TERM.—French or German, or Latin, 5; Acoustics and Optics, 5; Analytical Chemistry, 10; Land Surveying, 6; English Literature, 2; Modern History, 3; English, 1.

JUNIOR YEAR.

FALL TERM.—French or German, or Latin, 5; Geology, 5; Zoology, 3; English History, 5; English Literature, 2; English, 1.

WINTER TERM.—French or German, or Latin, 5; Analytical Chemistry, 10; Blow-pipe Analysis, 4; English Literature, 2; Colonial History, 5; English, 1.

SPRING TERM.—French or German, or Latin, 5; English Literature, 2; United States History, 5; Botany, 3; Meteorology, 2; English, 1.

SENIOR YEAR.

FALL TERM.—French or German, or Latin, 5; Commercial Law, 5; Metallurgy, 2; Psychology, 5; English, 1.

WINTER TERM.—French or German, or Latin, 5; International Law, 5; Constitutional Law, 5; Logic, 5; English, 1.

SPRING TERM.—French or German, or Latin, 5; Political Economy, 5; Astronomy, 3; Ethics, 5; Thesis, 5.

IV. COURSE IN ARTS.

Leading to the Degree of Bachelor of Arts.

FRESHMAN YEAR.

FALL TERM.—Algebra, 5; Memorabilia and Greek Prose, 5; Livy and Latin Prose, 5; Rhetoric, 2; Free Hand Drawing, 6; English, 1.

WINTER TERM.—Geometry, 5; Herodotus, 5; Horace—Odes and Epodes, 5; Rhetoric, 2; Tinting and Shading, 3; Lettering, 3; English, 1.

SPRING TERM.—Trigonometry, 5; Homer's Odyssey, 5; Horace—Satires and Epistles, 5; Rhetoric, 2; English, 1.

SOPHOMORE YEAR.

FALL TERM.—Sophocles, 3; Juvenal's Satires, 3; Mechanics and Heat, 5; Ancient History, 3; English Literature, 2; English, 1.

WINTER TERM.—Demosthenes, 3; Tacitus, 3; Electricity and Magnetism, 5; English Literature, 2; Medieval History, 3; English, 1.

SPRING TERM.—Æschylus, 3; Cicero's Select Letters, 3; Acoustics and Optics, 5; English Literature, 2; Modern History, 3; Land Surveying, 6; English, 1.

JUNIOR YEAR.

FALL TERM.—Demosthenes, 2; Pliny, 2; Geology, 5; French or German, 5; Inorganic Chemistry, 5; English Literature, 2; English, 1.

WINTER TERM.—Plato, 2; Plautus, 2; Inorganic Chemistry, 5; French or German, 5; English Literature, 2; Colonial History, 5; English, 1.

SPRING TERM.—Greek Syntax, 2; Latin Syntax, 3; French or German, 5; Inorganic Chemistry, 5; English Literature, 2; United States History, 5; English, 1.

SENIOR YEAR.

FALL TERM.—Analytical Chemistry, 10; French or German, 5; Commercial Law, 5; Psychology, 5; English, 1.

WINTER TERM.—French or German, 5; International Law, 5; Constitutional Law, 5; Logic, 5; English, 1.

SPRING TERM.—French or German, 5; Political Economy, 5; Thesis, 5; Astronomy, 3; Ethics, 3.

Military instruction throughout all courses the same as laid down in the Military Course.

Text-Books and Books of Reference.

MATHEMATICS.—Astronomy, Young. Algebra, Wells' University. Analytical Geometry, Loomis. Calculus, Taylor. Geometry, Davies' Legendre. Mechanics, Church. Trigonometry, Davies. Descriptive Geometry, Church.

ENGINEERING.—Land Surveying, Hodgman. Advanced Surveying, Johnson. Railroad Surveying, Searles. Bridge Stresses, Merriman. Civil Engineering, Mahan and Trautwine. Specifications, Haupt. Hydraulic Engineering, Fanning. Sanitary Engineering, Philbrick. Stereotomy, Mahan. Stresses in Framed Structures, Johnson and Bryan. Wellington's Earthwork Computation. Foundations, Patton.

SCIENCES.—Botany, Gray's School and Field Book. Chemistry, Analysis, Qualitative, Elliott, Fresenius. Volumetric Analysis, Sutton. Analysis, Quantitative, Fresenius. Organic Industrial Chemistry, Sadtler. Blow-pipe, Plympton's Qualitative, Plattner's Qualitative and Quantitative, by Cornwall. Metallurgy and Assaying, Hiorn's Text-Book of Elementary Metallurgy, Hiorn's Practical Metallurgy and Assaying. Agricultural Chemical Analysis, Frankland. Medical Chemistry, Ralfe's Clinical Chemistry. Organic, Remsen. Physics, Gage's Elementary, with lectures on special subjects. Zoology, Packard. Geology, Winchell's Geological Studies. Mineralogy, Dana's Manual, and Foye's Tables. Food Adulteration and its Detection, Battershall.

HISTORY, POLITICAL SCIENCE AND LAW.—History: Greek, Smith; Roman, Merivale; Mediæval and Modern, Myers; English, Green. Political Economy, MacVane. Psychology, Baldwin. Logic, Jevons. Ethics, Robinson. International Law, Davis. Constitutional Law, Cooley. Commercial Law, Townsend. Thwaites' The Colonies, Johnston's American Politics.

MODERN LANGUAGES.—French: Edgren's French
mar; Super's French Reader; French Literature. G
Joynes-Meissner's German Grammar; Joynes' G
Reader; German Literature.

ENGLISH.—Rhetoric: Clark's Practical Rhetoric
ung's Practical Rhetoric. Elocution: Clark's No
Reading; Bacon's Manual of Gesture. English Lite
Welsh.

Degrees.

The candidate for any degree must deposit with th
ulty a satisfactory thesis on some scientific or litera
ject connected with his department.

DEGREES OF GRADUATION.

The degree of Bachelor of Science in Civil Engi
is conferred upon any student who has completed the
in Civil Engineering.

The degree of Bachelor of Science is conferred up
student who has completed the course in Science a
erature.

The degree of Bachelor of Science in Chemistry
ferred upon any student who has completed the co
Chemistry.

The degree of Bachelor of Arts is conferred up
student who has completed the course in Arts.

ADVANCED DEGREES.

The degree of Civil Engineer is conferred upon graduates in Civil Engineering of three years' standing, who have pursued the profession of engineering during that time, have passed the requisite examinations, and have presented a satisfactory thesis; or upon graduates who have completed a post-graduate course.

Subjects and Methods of Instruction.

ENGINEERING.

The work of the first year in this department is common to all courses. The thorough training of the eye and hand in Freehand Drawing is of the greatest importance in all subsequent drafting. The course embraces accurate outline drawing, elementary perspective, sketching, object drawing, pencil shading and designing. The effort is made to produce designers, instead of mere copyists. Practice in lettering large and small drawings, general orders, etc., also in tinting and shading with the right line pen, and with brush and water colors, is given in the second term. Neatness of text and rapidity of execution are aimed at. In the third term, dexterity in handling drafting instruments is acquired. Various applications of geometry to drafting, and the orthographic and isometric projections of joints and splices in wood construction are taught. Descriptive Geometry is taught in the fourth and fifth terms, with special reference to its application to shades and shadows, machine construction, stone cutting, and to the design of stone bridges, culverts, spiral stairways, sewer intersections, etc.

The course in bridges begins with the drawing of details, which are measured by students while visiting engineering structures. Thus, while the student acquires facility in drawing, he becomes familiar with the various details of a bridge. An extended course in Bridge Stresses is given in

the ninth term, and in the eleventh term the student is given specifications, and required to apply his theoretical knowledge in designing railway and highway bridges of wood, iron and steel, to the minutest details. In Pen Topography and Colored Topography the students use the conventions for map making, and apply them in the maps platted from the land and railroad surveys.

An extended course in Applied Mathematics, or Mechanics of Engineering is given, in which engineering problems concerning rigid bodies at rest or in motion, the strength of engineering materials, and the statics and dynamics of liquids and gases are practically treated.

The laboratory work of the eighth term and the Metallurgy of the tenth enable the student to study the materials of engineering with regard to strength and constituents. Under Hydraulic, Sanitary and Civil Engineering, the design and construction of water supply and distribution systems, sewerage systems and sewage disposal, and of canals, tunnels, foundations in water and on land, and river and harbor improvements, are treated.

Six hours of drafting per week are required throughout the course, and while the above subjects are being studied, numerous designs of engineering structures are made in the drafting room. In the Reading Room are placed the best of engineering periodicals, which give descriptions of all new works of special interest, and enable the student to keep up with the latest methods of construction.

In Land Surveying and Leveling, practice in using and adjusting instruments is given, and the most approved methods of map making, dividing up and parting off land, and supplying omissions in old surveys are taught both in class-room and field. The advanced surveying of the seventh term includes Topographical, Geodetic and City Surveying, with field work and practice in the drawing room.

The Hydrography of the last term consists of lectures, recitations, and practice on neighboring bodies of water.

In Railroad Surveying the field work consists of preliminary surveying, final location, slope staking, etc. Office work is given in making contour maps of the line, profiles, earthwork calculations, estimates of cost, etc. The lectures on Economic Railway location enable the student to decide between two or more proposed railway lines, and to reduce expenditures in the operation of lines already built.

In the last term students are required to make specifications and contracts for engineering projects of their own design. The course given in this term in Astronomy provides the engineer with as much of this subject as his profession requires.

EQUIPMENT.—The department has a collection of designs for Freehand and Perspective Drawing, and for modern houses, cottages, public buildings and architectural details. It has also collections of blue prints of the best modern bridges, including pivot draws, plate girders, and various types of pin-connected and riveted trusses, and blue prints of sewer details and sewer constructions. It has a collection of models of wooden splices and joints used in bridge construction and carpentry, and of details of machine construction.

The department has procured the best modern instruments for angle and line measurement, including t sits, compasses, levels, plane table, sextant, rods, chains, etc., and is prepared to give as much of practical engineering field work as can be given in schools, with the first class instruments now used in modern engineering.

MATHEMATICS.

In the department of Mathematics, sufficient attention is paid to practical applications to enable students to see the utility of their studies, and to assist them in the scientific professions.

Theory is developed in as careful and complete a manner as possible, in order that the student may receive that

mind discipline which is so valuable an equipment for all pursuits, whether technical or general.

The clearest and most concise text-books are sought for; abstruse and unprofitable discussions are avoided; original work is encouraged, and students are called on for personal recitations more frequently than in most institutions of similar character.

GEOLOGY AND MINERALOGY.

The treatment of Geology consists of text-book work, supplemented by frequent excursions in the field, in which the many interesting features of the region are examined. Colored maps, representing the geological formations of counties or larger sections, are required. Mineralogy is taken up in connection with Geology, the student being required to identify minerals by their physical properties. In connection with this work, each student is required to make a collection of fifty minerals, which he determines and classifies. To aid him in his work, he is given instruction in Blow-pipe Analysis and Determinative Mineralogy. Through the generosity of the late Philander D. Bradford, the University has acquired a valuable collection of minerals.

HISTORY AND POLITICAL SCIENCE.

The course in History affords a connected and comprehensive view of the history of civilization from the earliest times to the present. By investigating the causes which underlie the world's history, the instruction aims, not only to train the memory and develop the reasoning faculties, but to fit men to deal wisely with those practical social questions of the present, upon whose solution the experience of the past throws the most valuable light. Particular attention is given to the constitutional development of England and of the United States.

Political Economy is taught in the Senior year by means text-books, lectures and informal discussions. A theoretical view of the subject is followed by a practical study of

Land and Labor Questions, Socialism, Finance, Public Credit, the Principles of Taxation, and Tariffs.

PSYCHOLOGY.

An examination of the different sources of knowledge, an analysis of the various mental states, and a classification of the faculties, are followed by a study of the relation of psychology to education, for the benefit of those students who may desire to engage in teaching. The laws governing the processes of acquiring and reproducing knowledge, the development of the faculties, together with the ways in which they interact one on another, and the play of motives, furnish the foundation of rational instruction and government, and are of special value to the teacher.

LOGIC.

Logic is taught by recitations and informal lectures. The objects of this study are to give the student vigorous mental discipline, training in exactness, and certainty in thinking, skill in detecting fallacy, and assistance in all the sciences by directing attention to those points of method in each science, which the cultivator is apt to neglect in his zeal for the subject-matter of each.

The unfolding of the laws of thought by an analysis of the Notion, Judgment and Reason, is made the basis of many exercises in the opposition and conversion of propositions, logical division, definition, classification, analysis, synthesis, application of the rules of the syllogism to arguments, and the detection of fallacies. In Induction, the methods of scientific investigation and proof are considered in connection with a study of the history of some one of the natural sciences.

MODERN LANGUAGES.

The chief aim of this department is to enable the student to read French and German with ease and fluency. By this method it is intended, not only to familiarize the ear with

the spoken language, and thus to lay the best groundwork for conversation, but also to render easy and intelligible the grammar work and reading which follow.

After a thorough course in the essentials of grammar, accompanied with composition and the reading of easy prose, are read various selections of prose and poetry from the best authors.

Much attention is given to the relation of the languages to English and to each other, especially in the matter of derivative and cognate words.

To enrich the student's English vocabulary, to cultivate his taste for good literature, and to broaden his mental horizon, are further objects of the instruction.

RHETORIC, ENGLISH CRITICISM, AND ELOCUTION.

The instruction in this department aims to deal in the most practical way with the composition and delivery of good English. The work, which is uniform in all courses, is continuous throughout the four years.

In Rhetoric, to which subject is devoted two hours each week during the Freshman year, much of the time is spent in the application of the principles of Rhetoric to the correction of faulty sentences. This instruction is supplemented, during the remainder of the course, by lectures on the higher qualities of style, in connection with the essay work. As to punctuation, paragraphing, etc., students are required to present their essays and manuscript orations in proper form for publication.

In English Criticism, while it is sought to eradicate faults of style, especial attention is given to the development of the student's individuality and power of expression. An important feature is the critical examination of English prose masterpieces, which is made in connection with the study of English Literature. Essays and orations are carefully revised, returned to the writers for correction, and afterward read and criticised in class. That the student

may learn to study his subject comprehensively, and to arrange its parts logically, instruction is given in the formation of essay outlines.

In Elocution, the chief ends sought are distinct and forcible utterance, just emphasis, and ease and naturalness of expression.

RHETORICALS.

Friday afternoon of each week is devoted by the entire corps of cadets to rhetorical exercises, in which each cadet is required to take part every third week. The exercises are varied, consisting of declamations, essays, orations, debates, presentation and acceptance speeches, etc. Much stress is laid upon the subject of extempore speaking. Each cadet is required to rehearse before a member of the Faculty before appearing at rhetoricals. At the close of each rhetorical session, the members of the Faculty make criticisms and suggestions upon the work done. Occasionally, in place of the regular rhetorical work, the corps organizes itself into a senate or other deliberative body, to gain familiarity with parliamentary law.

Experience has shown that four years of participation in these exercises insures, even to the diffident, that ease and fluency in public speaking which is so important a factor in the various walks of life.

BOTANY.

The course in Botany begins in the spring term of the Junior year, and comprises Vegetable Morphology and Physiology, Plant Analysis, and the preparation of Herbaria.

The life history of vegetation is traced from seed through stems and roots, leaves, branches, buds, flowers and fruit, to seed again.

Gray's Lessons are used, with lectures and field work. The fall term is devoted mainly to Classification and His-

tology. A few of the more difficult orders of Phænogams are studied. Attention is given to the various kinds of parasitic fungi so destructive to crops.

ZOOLOGY.

Structural Zoology is taught by recitations and by laboratory demonstrations. Dissections and drawings are made of representative species in each group of animals. The purpose of this course is to give the student a definite conception by means of sense-images of the characteristic structure of the leading modifications of the Animal Kingdom.

PHYSICS.

The treatment of Physics consists of text-book work, with frequent experiments. The work in Mechanics is still further treated under a separate head. Especial attention is given to Electricity and Magnetism, and the student is required to do actual work in wiring, etc., making computation of resistance in telegraph and electric light wires. He is also taught the principles of various electrical machines, and is encouraged to make models. The class is taken to visit electric plants, where the principles taught in the class room are practically applied.

CLASSICS.

It is the aim of the Classical Department to make the work as thorough as possible, and to give the student a general literary culture. A thorough knowledge of grammatical forms is considered necessary, and especial attention is given during the first year to etymology and syntax, vocabulary and idioms. In this manner not only a thorough knowledge of the language is obtained, but the greatest possible amount of mental discipline is derived. The similarity between the Greek and Latin on the one hand, and the English on the other, is pointed out, and especial study is given to roots from which English words are derived. The

course is designed to embrace all the leading classes of composition in Greek and Roman literature, and to afford accurate historical knowledge of the Greek and Latin characters and customs. Attention is given to right translation, and care is taken that the student translates into good English, that he may thus improve his knowledge of English in the study of the classics.

CHEMISTRY.

The study of Chemistry is begun by students in all courses, except that of Arts, in the Freshman year. It consists during this year of lectures and recitations upon general Inorganic Chemistry, in which the principles of the science are brought out and fully explained. Following this is a description of the properties of elements and compounds, and of the methods used for preparing them. To bring this work more clearly before the student, a large number of experiments are performed before the class, in many of which the students are permitted to assist.

In addition to the recitations, two hours a week are devoted to laboratory practice, in which the student performs for himself the experiments given in the section room. The second year's work is intended for those who take the Chemical Course, and consists of daily laboratory practice. The work of this and of the following years is performed by the students themselves, under the direction of the professor and his assistant. Qualitative examinations of minerals, commercial products, fertilizers, drugs and medicines are made, and as the student becomes more advanced, quantitative examinations of the same substances are made. For those students desiring to fit themselves for the study of Medicine and Pharmacy, special instruction is provided in the Chemical Laboratory.

ACKNOWLEDGMENTS.

Acknowledgments are due the following-named gentlemen for contributions made, since the publication of the last Catalogue, for permanent improvements :

John J. Dewey, William S. Dewey, H. M. Phillips, R. H. Ford, S. H. Cross, Rev. C. H. Fay, E. H. Prince, Dr. E. O. Blanchard, Lieut. H. C. Keene, J. M. Holland, Lieut. F. C. Kimball, Chas. A. Silver, E. M. Carr, Lieut. H. C. Keene, and W. E. Hurlbut.

Acknowledgments are due Capt. F. H. Howe for a framed picture of Gen. Alonzo Jackman; to Gen. G. M. Dodge for several historical volumes on the Rebellion; to Gen. W. H. H. Davis for 1 volume of Pennsylvania in the Rebellion, and to Col. Frank Hatch for a specimen of Arizona petrified wood.

FINALLY.

It is the aim in all the departments of the University to teach students the practical application of what they study. Mere theories are of little value unless the student can apply them successfully. Too many college graduates have failed in their professions from being unable to apply theory to practice, and it is this lack which we endeavor to supply in our students.

Brief Sketch of Norwich University.

This institution was founded in 1819, by Capt. Alden Partridge, of whom a cut appears in this Catalogue, and was known as the American Literary, Scientific and Military Academy. It retained the name until November 6, 1834, when a charter of incorporation was granted it by the State of Vermont, under the name of Norwich University.

Thus was founded the FIRST Scientific, Classical and Military College in the United States. This new departure met with universal favor, and its halls were soon crowded with young men from every State in the Union.

In March, 1866, the University buildings at Norwich were destroyed by fire, and the University was removed to Northfield, Vt., where the citizens had offered fine grounds and commodious barracks. Here the same system of instruction and military discipline is maintained, and many young men have been enabled to go forth to fill high positions in various professions.

This was the first institution in the country to lay down a purely scientific course of study, and up to the time of the Rebellion the only one which embraced in its curriculum thorough Military, Classical and Scientific courses. By her work for half a century, Norwich University merits the confidence of the public. Special attention having been given to Military Science and Engineering, her graduates have become particularly distinguished as army officers and civil engineers, some having risen to the foremost rank.

Scholarships.

Thirty State scholarships, covering tuition in any of the departments are now available.

Young men residing in Vermont who may be desirous of obtaining a State scholarship should first apply to the Superintendent of the University for information as to whether a vacancy in their county exists. Learning of a vacancy, application should then be made to the Senators of the applicant's county.

In addition to the above, a number of half-scholarships have been created, by benevolent friends, for the benefit of needy young men who desire to enter the University.

Young men desiring to take advantage of the scholarships hereby offered should address the SUPERINTENDENT at Northfield.

General Information.

EXPENSES.

A prominent feature of the University is the very reasonable charges for instruction and the low expense of living. The charge is $85 per year, for instruction, room rent and incidentals. Students pay for board and laundry at the University Mess Hall $3.25 per week, which makes the whole expense less than the living expense alone in cities, and at other institutions of learning.

The following table gives a statement of the expenses:

Tuition per College Year,	$ 65 00
Room rent,	15 00
Library and Contingent Expenses,	5 00
Board and Laundry, thirty-six weeks,	117 00
Total for Year,	$202 00

Uniform complete, including Regulation Fatigue Suit and Dress Coat, Helmet and Fatigue Cap, $40.00.

The charge for room rent is based upon the supposition that two students occupy the same room. Rooms are unfurnished. Students bring bed linen, blankets and towels. Second hand furniture can be bought at low prices, and sold at a slight reduction.

A room can be furnished at a cost of from $10 upwards to each occupant.

Cadets who are appointed buglers receive $50 per year for their services.

Bills are payable strictly in advance.

Students in the course in Chemistry are required to deposit $10 at the beginning of each term of the Sophomore, Junior and Senior years, the amount not consumed being returned at the end of each term.

In the Engineering course in Qualitative Analysis, $3 is charged for chemicals in the second term of the Junior year.

In the other courses a fee of $5 per term is charged for Qualitative Analysis.

A fee of $3 per term is charged for Determinative Mineralogy.

One dollar per term is charged members of the Freshman class taking the laboratory work in connection with the Inorganic Chemistry, for chemicals.

These charges are for chemicals, and do not include breakages or waste of materials. The average expense for materials for students in the Chemical course is from $6 to $8 per term.

The Wells River Railroad allows students half fare, and the Central Vermont carries students for two cents per mile on certificates, to be obtained through the Superintendent of the University.

For further information, address either the ACTING PRESIDENT, or the Superintendent, at Northfield, Vt.

BUREAU OF INFORMATION.

There has recently been established by the University a Bureau of Information. It is intended that this Bureau shall serve in assisting graduates in obtaining desirable positions as Teachers, Engineers, Chemists, etc. Those of the Alumni who desire such positions should send their addresses to the Superintendent, that they may receive the benefit of the numerous applications for men, of which the University is constantly in receipt. The value of this feature is attested by the comparatively large number of graduates who, since its establishment, have found lucrative positions without trouble or expense to themselves.

THE REVEILLE.

The Cadets conduct a monthly magazine devoted to the interests of the University, the Alumni, and the Corps itself. Upon this paper excellent drill in journalism is afforded the Cadets.

EXEMPTIONS FROM REVEILLE WORK.

The Editor-in-Chief and Business Manager of the "Reveille" shall be allowed an option between exemption for one-half their rhetorical work and exemption from five hours' work for one term in a year, or an equivalent.

The other members of the Editorial Staff, viz.: Literary, Personal, Local and Exchange Editors, and the Assistant Business Manager shall be allowed the same exemption from rhetoricals or exemption from three hours' work for one term:

Exemptions from studies will be allowed only in the following courses: History, English, Law and Philosophy.

READING ROOM.

A reading room is maintained by the Cadets, which is provided with the leading literary, political and technical periodicals of the day.

MESS HALL.

The University Mess Hall is a large building, in which several members of the Faculty with their families reside, and where they, with the corps of Cadets, take their meals,

STUDENTS' SOCIETIES.

Two literary societies exist among the students, in which valuable literary work is done, while at the same time social privileges are enjoyed. These societies are in every way approved by the authorities.

STUDENTS ENTERING

should report upon arrival to the Superintendent, who will give them all necessary instructions as to examinations, etc. The Superintendent will also assign each new student to quarters in Cadet Barracks.

SPRING ENCAMPMENT.

The last two weeks of the spring term are spent in camp, and the Corps receives instruction in all the details of camp

life, together with guard duty. While in camp a general review of all the drills is made to insure familiarity with them. During this encampment considerable time is devoted to attack and defence of camp, and to rifle practice.

EXTENDED MARCHES.

The encampment may be varied by extended marches about the State. During the encampment and on the march the Corps is at all times under the command of the Commandant of the University, who is responsible for the conduct of the Cadets.

RELIGIOUS FEATURES.

Prayers are held before the opening of academic exercises on each week-day morning. The following clergymen, who are active resident clergymen of the town, conduct morning exercises: Rev. William S. Hazen, D. D., and Rev. Sylvester Donaldson. On Sunday morning each Cadet is required to attend divine service with some one of the village congregations, the choice being made at the beginning of the term by the Cadet himself, if of age, or otherwise by his parents or guardians, and adhered to throughout the term. The societies of the village are: Congregationalist, Episcopal, Methodist, Roman Catholic and Universalist. While Cadets are held to a strict observance of the rules for religious exercises, and while all immoralities are carefully guarded against, yet the institution is in every respect non-secterian.

PRIZE SPEAKING.

There have been established two prizes of $15 and $10, respectively, to be contested for by those members of the Sophomore and Freshman classes who show the greatest merit in declamation in a contest held during Commencement week. Prize winners in previous contests are debarred from competing.

HONORABLE MENTION.

The student having the highest general average in his class for the year, providing such average be at least 90 per cent, receives honorable mention at the annual Commencement, and the honor list is printed in the annual Catalogue.

SENIOR MEDALIST.

The member of the Senior class who graduates with the highest general study average receives the Faculty Gold Medal.

COMMISSIONED OFFICERS.

Upon graduation Cadet officers receive commissions signed by the President of the University, and by the Ad-

NORTHFIELD, VT., June 27, 1889.

A business meeting of the Alumni and Past Cadets of Norwich University was called to order at 4:30 P. M., with President Joseph Stedman in the chair.

Prof. J. B. Johnson of Northfield was elected to receive subscriptions and donations toward a permanent endowment fund, the income to be used for the current expenses of Norwich University and support of the Faculty and to be held by him in trust for that purpose only, excepting that, if the University cease to exist, then in trust for the donors.

Further, said Johnson to give good and sufficient bonds for the faithful execution of his trust in a sum not less than $5,000, and with at least two responsible sureties. The bond as drawn and signed to be approved by J. C. B. Thayer, Treasurer of Norwich University.

Moneys and communications concerning endowment may be sent to the Trustee of the Fund, Prof. J. B. Johnson.

MILITARY FEATURE.

Throughout the history of the University there has been maintained a very high standard of Military excellence. From the first it has held the distinction of being the foremost Military institution in the land, with the exception of the National Academy. The following, from Gen. W. T. Sherman's speech before Ransom Post, St. Louis, Mo., will sustain the above statement regarding this University. In speaking of General T. E. G. Ransom, he says: "He became Principal of Norwich University, THEN, as SINCE, an Academy of great renown. This military school at one time almost rivaled the National Academy of West Point, and there many a man who afterwards became famous in the Mexican and Civil wars, first drank in the inspirations of patriotism, and learned the lessons of the art of war." The reputation of the New England regiments must be attributed to discipline and instruction received at this institution, as much as to any other single

factor; and the "Green Mountain Boys" owe their national reputation and success largely to their training within her halls. Her Honor Roll in the late Civil war contains the names of twelve Generals (among them Gens. Dodge, Buel, Seymour, Wright, Ransom); twenty-five Colonels, forty field officers, fifty-five Captains, one hundred and forty-three lieutenants, and a long list of non-commissioned officers. It has been the highest endeavor of the Trustees and Faculty to maintain in every respect the military reputation of the University. Attention to the course of Military Instruction will give a fair idea of the training given, and a copy of the Rules and Regulations will give a complete statement of the duties required of Cadets.

General Statement.

Norwich University is distinctively a military institution, but it is in no way reformatory in its nature.

The aim of the institution is to maintain a regular routine of military duty, which affords most valuable training to the young man engaged in study.

While strictly maintaining the military system, the student is allowed every liberty consistent with the system. It is only when wilful infractions of properly constituted authority occur that the impersonal working of the military system exerts its corrective influence.

STANDING, MILITARY CUSTOMS, ETC.

Academic standing depends upon recitations; Military standing upon marks of merit and demerit, together with proficiency in military duties. Immoralities, technical and

minor offences, are marked with demerits, and are punishable in other ways. Whenever purely academic duties require variation in special matters, the analogies of military usage are maintained, so far as practicable. The students are called cadets, and are under military discipline. The cadet officers are appointed on the basis of Military and Academic standing. Every cadet is required to wear the uniform of the University when on duty.

UNIFORMS.

A single-breasted dress coat of dark blue cloth, University buttons; trousers dark blue with light red stripe; black cravat; standing collar; U. S. regulation helmet, with usual gilt ornament; forage cap; boots or high shoes of black, unglazed leather. The commandant furnishes accurate directions for the tailor's use, if desired.

Sufficient time is given for students to wear out their citizen's suits before they are required to procure uniforms.

LIBRARY AND COLLECTIONS.

The University library is very well supplied with works of reference, and in addition contains many works of great value, which are not to be found in newer libraries. The mineral collection is ample for the purpose of instruction. Manufacturers, dealers in building materials, and others are requested to send specimens of their products to the Department of Engineering. Specimens in Natural History, Minerals, etc., will be gladly received by the Superintendent. Alumni, Past Cadets, Authors, and Publishers are earnestly requested to contribute their publications to the University Library.

RECOGNITION BY STATE AND GENERAL GOVERNMENTS.

The fact that the State of Vermont has recognized Norwich University by making her Corps of Cadets a part of the State Militia and by granting her free scholarships,

shows the extent to which the State Government values the institution as a training school for the citizen soldier, and attests her gratitude for services already rendered. For like reasons the U. S. Government has detailed an active army officer for duty at the University as Professor of Military Science.

RESIDENT IN BARRACKS.

A member of the Faculty resides in the Barracks with the cadets, thus insuring a strict observance of rules and regulations.

LOCATION.

Northfield being located on the main line of the Central Vermont railroad is easy of access from all directions, and students are given reduced rates upon application. Telegraphic communication can be had directly with the University barracks, through the Western Union Company. There is probably no State that can boast of a more healthful climate than Vermont. Northfield is in the Central part of the State, and is ten miles from the Capital, Montpelier. A popular resort in summer, it loses none of its healthfulness in winter. The water is pure and clear, and the University and village are well supplied from moun-

Routine of Duty.

Reveille, 6:30 A. M.; Police Call and Inspection of Quarters, 7 A. M.; Breakfast, 7:30 A. M.; Prayers, 8:45 A. M.; Study and Recitation hours from 9 A. M. until 12 M.; Dinner, 12:15 P. M.

Afternoon Roll Call, 1:35 P. M.; Study and Recitation, from 1:45 P. M. until 3:45 P. M.; Drill, 4:10 P. M. until 5:10 P. M.; Supper, 5:30 P. M.; Retreat, 7 P. M.; Taps, (Lights out) 10 P. M.

Retreat on Friday, Saturday and Sunday nights at the formation for supper. On Friday and Saturday nights taps at 10:30 P. M.

SUNDAYS.

Police Call, 7:30 A. M.; Breakfast 7:50 A. M.; Sunday Morning Inspection, 9:30 A. M.; Church 10:30 A. M.; Dinner, 1:20 P. M.; Supper, 5 P. M.

On Friday nights there is release from quarters until 11 P. M. for Seniors, and until 10:30 P. M. for other Cadets.

On Saturday nights all Cadets are allowed to attend society meetings until 10:30 P. M. without permits.

Permits are granted to Cadets in good standing to go out for social purposes on Saturday or Sunday evening as they may elect.

The foregoing routine is varied during the Spring Term and the Annual Encampment, as circumstances may render best.

The President, with the concurrence of the Faculty, periodically issues a detailed list of calls, and directs such additional roll-calls and makes such changes in the foregoing routine of duty as the discipline of the corps and changes in Academic and Military duty may necessitate.

Associate Alumni and Past Cadets.

By action of the Trustees, the Alumni and Past Cadets are entitled to elect one of the Board of Trustees each year. At a meeting held on Wednesday, June 26, 1889, it was decided that the meetings of the Association shall hereafter be held annually on the day preceding Commencement, at 10 o'clock in the forenoon.

OFFICERS FOR 1893-'94.

President:

CHARLES DOLE, '69, Northfield, Vt.

Vice-Presidents:

J. J. DEWEY, '65.
REV. WALTER DOLE, '70.
T. C. MCILVAINE, '76.
F. L. HOWE, '80.
A. F. BOOTH, '91.

Secretary and Trustee of the Alumni Endowment Fund:

J. B. JOHNSON, '79, Northfield, Vt.

Treasurer:

L. B. JOHNSON, '88, Northfield, Vt.

Committee on Increasing the Alumni Endowment Fund.

N. L. SHELDON, '84, Boston, Mass.
D. E. WILMARTH, '84, Boston, Mass.
R. L. IRISH, '89, Brooklyn, N. Y.

Members of the Association not present may vote by written ballot at the annual election of Trustees. It is therefore important that each Past Cadet keep the Secretary informed of his full address, and notify him promptly of any change.

Boston Alumni Association.

ANNUAL REUNION IN BOSTON.

OFFICERS FOR 1893.

President :

GEORGE W. HOBBS, Esq., '57.

Vice-Presidents :

HON. G. H. HATHAWAY, '27.
WM. R. CUTTER, '69.
W. E. HASSAM, '87.

Secretary :

N. L. SHELDON, Esq., '84, Boston, 146, Franklin St.

Treasurer :

GEORGE D. THOMAS, '76.

Endowment Fund Committee :

J. Q. MCCOLLESTER, '56.
G. D. THOMAS, '76.
N. L. SHELDON, '84.
J. K. EGERTON, Esq.
REV. HOWARD F. HILL, '67.

New York Alumni Association.

ANNUAL REUNION IN NEW YORK CITY.

OFFICERS FOR 1893.

President:

GRENVILLE M. DODGE, '53.

Vice-Presidents:

CYRUS H. FAY, '37.
CLAYTON E. RICH, '63.
WM. R. MEAD, '64.
WILLIAM M. RUMBAUGH, '76.

Secretary and Treasurer:

ROBERT L. IRISH, '89.
443 Myrtle Ave., Brooklyn, N. Y.

Graduates of 1890.

F. PARKER.
Civil Engineer, with J. W. Ellis, Woonsocket, R. I.
E. Collins.
Civil Engineer for Pittsfield, Mass.

H. J. DANE,
Pharmacist, Chicago, Ill.

I. R. MOWER,
Pharmacist, Chicago, Ill.

J. H. JUDKINS,
Physician, Northfield, Vt.

Graduates of 1891.

GEORGE FRANKLIN ABBOTT,
Civil Engineer, West End Street Railway, Boston.

ALFRED FREDERICK BOOTH,
Principal Northfield Graded School.

EDWARD AIKEN SHUTTLEWORTH,
2d Lieut. 11th Inft., U. S. Army.

WILLIAM HIBBARD SPRAGUE,
Merchant, East Brookfield, Vt.

HARRY GORDON WOODRUFF,
Collection Clerk Amoskeag National Bank,
Manchester, N. H.

ETHAN ALLEN SHAW,
Instructor in Normal School, Randolph, Vt.

CARL GILMAN DOLE,
Stenographer, West Superior, Wis.

HEBER CALVIN CADY,
Assistant Cashier, Northfield Savings Bank.

BURTON WILEY FARNHAM,
Civil Engineer in City Engineer's office,
Lowell, Mass.

FRED MINER GOODHUE,
Hydraulic Engineer, Department of Locks and Canals,
Lowell, Mass.

PERCY GATES SMITH,
Division Engineer, S. S. & E. B. Railway.

CLARENCE BONNETT RIGGS,
Business, Middlebury, Vt.

Graduates of 1892.

E. W. Clark,
Draftsman, Boston Bridge Company.

J. S. Craigue,
Engineer, Boston Board of Survey.

C. J. C. Evans,
Engineer, with J. W. Ellis, Woonsocket, R. I.

C. W. Pierce,
Associate Editor of the Bennington *Banner*.

R. H. Ford,
Civil Engineer, Central Vermont Railway.

E. H. Ryan,
Hydraulic Engineer, Lowell, Mass.

D. C. Webb,
With L. H. Webb Lumber Mfr., Braintree, Vt.

B. W. Gleason,
Dealer in Real Estate, Boston, Mass.

F. D. HOLBROOK,
Civil Engineer, Water Supply Dep't
Brockton, Mass.

W. E. HURLBUT,
Principal of Grammar School, Northfield, Vt.

F. A. MANUEL,
With Manuel & Hardy, Man'f., Richford, Vt.

H. N. MATTISON,
Assistant Cashier, Northfield National Bank.

O. L. PEASE,
With Wholesale Drug House, Hartford, Ct.

For graduates previous to 1890, see Alumni record.

HONOR LIST 1893.

Valedictorian,

EBEN WATSON GAYNOR.

Salutatorian,

WILBUR EDSON HURLBURT.

Senior Gold Medalist,

EBEN WATSON GAYNOR.

HONORABLE MENTION.

FRANK DUDLEY HOLBROOK, '93.
RAYMOND UNDERWOOD SMITH, '94.
WALTER GEORGE HUNTLEY, '95.
JAMES LELAND AVERILL, '96.

WINNERS IN PRIZE SPEAKING.

1st Prize, ERNEST WILLARD GIBSON, '95.
2d Prize, CHARLES ALBERT PLUMLEY, '96.
3d Prize, HARRY CHESTER MOSELY, '95.

BATALLION ORGANIZATION.

HENRY C. KEENE, 1st Lieut., 24th U. S. Infantry.
Commandant.

HOWARD CLINTON HOLDEN, Cadet 1st Lieut, and Adj't.

HARLAN BADGER WASON, Cadet 1st Lieut. and Quartermaster.

WALTER GEORGE HUNTLEY, Cadet Sergeant-Major.

HAL HOLMES STEARNS, Cadet Quartermaster-Sergeant.

CADET COMPANIES.

"A."

Capt. RAYMOND UNDERWOOD SMITH.
1st Lieut. LEO BERTRAM CLOGSTON.
2d Lieut. ERNEST WILLARD GIBSON.

"B."

Capt. LEROY CHITTENDEN HULBURD.
1st Lieut. HARVEY LEVI HINMAN.
2d Lieut. GEORGE EBER STORRS.

Roster.

SENIOR CLASS.

Leo Bertram Clogston,	South Royalton.
Harvey Levi Hinman,	North Stratford, N. H.
Howard Clinton Holden,	Barre.
LeRoy Chittenden Hulburd,	Brasher Falls, N. Y.
Raymond Underwood Smith,	Wells River.
Harlan Badger Wason,	Methuen, Mass.
George Duff Whiteside,	Vergennes.

JUNIOR CLASS.

Edgar Fletcher Carruthers,	Bellows Falls.
Charles Horace Davis,	Northfield.
Fred Carnot Davis,	Northfield.
Frank James Donahue,	Proctor.
Ray Storrs Dow,	Sycamore, Ill.
Ernest Willard Gibson,	Londonderry.
Philo Remington Hoefler,	Ilion, N. Y.
Walter George Huntley,	Northfield.
Harry Chester Mosley,	Northfield,
Bert Henry Prior,	Underhill.
James Ernest Ross,	Ellendale, N. D.
Michael John Ryan,	Gouldsville.
George Eber Storrs,	Island Pond.
Hal Holmes Stearns,	Winthrop, N. Y.
Samuel Charles Yeaton,	Brooklyn, N. Y.

SOPHOMORE CLASS.

Arthur Gilbert Andrews,	Northfield.
James Leland Averill,	Northfield.
Roy Davenport Baker,	North Adams, Mass.
William Preston Beauclerk,	Irasburgh.
George Horace Briggs,	Northfield.
Charles Howard Brooks,	Northfield.
William Granville Brooks,	Northfield.
Charles Sargent Carleton,	Cumberland Mills, Me.
Herbert Sawyer Clark,	Northfield.
John Leslie Collins,	Northfield.
Arthur Hall Cushman,	North Bennington.
Harry Ray Dole,	Northfield.
Phil Sheridan Howes,	Northfield.
Harry Christopher Kerr,	Granville.
Edward Michael McCarty,	Windsor.
Charles Albert Plumley,	Northfield.
Carroll John Scribner,	Stowe.

February 22, Friday :—Washington's Birthday.
March 18-21 :—Term Examinations.
March 21, Thursday :—Term ends.

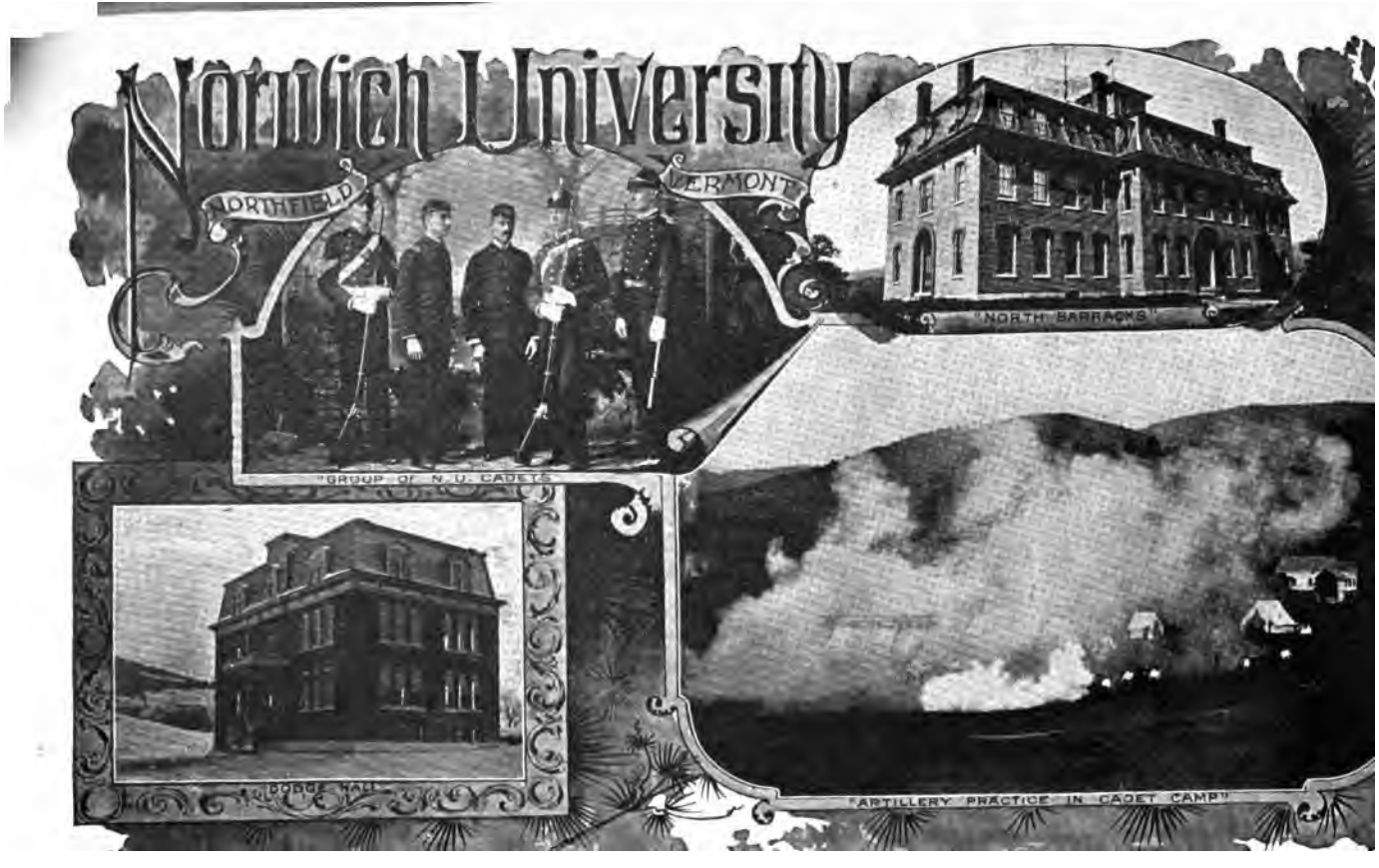
SPRING TERM, 1895.

April 4, Thursday :—Entrance Examinations and Registration.
May 10, Friday :—Seniors will present graduation theses.
May 30, Thursday :—Memorial Day.
May 31, Friday :—Senior Examinations.
June 10-15 :—Final Examinations.
June 17 :—Annual Encampment begins.
June 23 :—Baccalaureate Sermon.
June 25, Tuesday :—Sophomore and Freshman Prize Speaking.
June 26, Wednesday :—Annual Meeting of Trustees. Alumni Exercises.
June 27, Thursday :—Annual Commencement.
June 28, Friday :—Entrance Examinations.

Norwich University

Northfield, Vermont.

1895.


Norwich University
NORTHFIELD
VERMONT
"GROUP OF N. U. CADETS"
"NORTH BARRACKS"
"DODGE HALL"
"ARTILLERY PRACTICE IN CADET CAMP"

SIXTY-FIRST ANNUAL CATALOGUE

—OF—

NORWICH UNIVERSITY.

MILITARY, SCIENTIFIC AND CLASSICAL.

NORTHFIELD, VT.

MONTPELIER, VT.:
ARGUS AND PATRIOT CO., PRINTERS AND PUBLISHERS.
1895

DUP EXCH 7 MAY 1896
NORWICH UNIV

CAPTAIN ALDEN PARTRIDGE.

Founder.

CORPORATION.

President:

Acting President:

HON. GEORGE NICHOLS, M. D., LL. D.

Secretary:

JOSEPH K. EGERTON.

NORTHFIELD, VT.

Treasurer:

J. CAREY B. THAYER, ESQ.

TRUSTEES:

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WALDO P. CLEMENT, B. S.,		New York City
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WILLIAM B. MAYO, M. D.,		Northfield
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JOSEPH STEDMAN, M. D., A. M.,		Boston, Mass
JOSEPH K. EGERTON,		Northfield
CHAUNCEY DENNY,		Northfield
JOHN J. DEWEY, B. S.,		Quebec
THOMAS J. BOYNTON,		Montpelier
FRANK L. HOWE,		Northfield
REV. WILLIAM HAZEN, D. D.,		Northfield
REV. ISAAC P. BOOTH, D. D.,		Boston, Mass
REV. CHAS. W. EMERSON, LL. D.,		Norwood
N. LOUIS SHELDON, A. M., elected by Alumni, term expires	1895,	Waltham
GEORGE D. THOMAS, PH. B.,	1896,	Wellesley
ETHAN A. SHAW, C. E.,	1897,	New York City
WILLIAM M. RUMBAUGH	1898,	Northfield
CHARLES DOLE, A. M.,	1899,	

FACULTY.

HON. GEORGE NICHOLS, M. D., LL. D.,
ACTING PRESIDENT.

CHARLES C. BRILL, A. M.,
SUPERINTENDENT.

JOHN B. JOHNSON, A. M., C. E.,
Professor of Mathematics and Civil Engineering.

CHARLES C. BRILL, A. M.,
Professor of Chemistry and Physics.

HERBERT R. ROBERTS, A. B.,
Professor of Latin, Greek and English.

HENRY C. KEENE, JR., 1st Lieut. 24th Inft., U. S. A.,
Professor of Military Science.

CHARLES H. SAVAGE, A. B.,
Professor of History and Modern Languages.

DEWITT C. WEBB, C. E.,
Instructor in Mathematics.

FRANK PLUMLEY, LL. B.,
Lecturer on Constitutional and Commercial Law and Social Science.

FRED C. DAVIS,
Instructor in Drawing.

CHARLES S. CARLETON,
Instructor in Drawing.

HENRY C. KEENE, Jr., 1st Lieut. 24t
COMMANDANT.

JOHN B. JOHNSON, Captain
QUARTERMASTER.

WILLIAM B. MAYO, M.
SURGEON.

Rev. WILLIAM HAZEN, I
CHAPLAIN.

JAMES EVANS,
ARMORER.

GEORGE W. DUNHAM
COMMISSARY.

REQUIREMENTS FOR ADMISSION.

All candidates for admission to the University must be at least fifteen years of age, and must present satisfactory evidence of good moral character.

TO THE COURSES IN CIVIL ENGINEERING, CHEMISTRY, AND SCIENCE AND LITERATURE.

Candidates are examined in the following studies:

MATHEMATICS. — Arithmetic; Algebra to Quadratics; Geometry; first four books, Davies' Legendre or an equivalent.

ENGLISH LANGUAGE. — Grammar; Composition, with special attention to punctuation and the use of capitals.

GEOGRAPHY. — Physical and Political Geography.

HISTORY. — History of the United States.

TO THE COURSE IN ARTS.

In addition to the examination in Mathematics, English Language, Geography and History, laid down for the courses in Science, examinations are as follows:

LATIN. — Cæsar's "Commentaries," four books, or Sallust's "Cataline"; Virgil's "Æneid," six books; Cicero, four orations.

GREEK. — Xenophon's "Anabasis," four books, or one hundred pages Goodwin's Greek Reader; Homer's "Iliad," two books.

Graduates from approved High Schools are admitted upon certificates.

Candidates not fully prepared in all the requirements may be conditioned for one term.

ADVANCED STANDING.

Candidates for advanced standing must pass satisfactory examinations in the studies already completed by the class which they propose to enter, and in those required for admission. Those, however, from other colleges should bring certificates of honorable dismissal, and marks showing standing. The latter may, on approval by the Faculty, be taken in lieu of examinations.

COURSES OF INSTRUCTION.

COURSE IN MILITARY INSTRUCTION.

For all Students throughout the four years. Exercises, Drills or Lectures every day at 4 o'clock P. M.

FALL TERM.

Settings Up, Calls, Manual of Arms, School of the Company and Extended Order Drill, Bayonet Exercises indoors in bad weather.

WINTER TERM.

Broadsword and Sabre Drill, Manual of the Sword and Fencing. Juniors and Seniors, Lectures on Military Engineering or Military Science and Art of War.

SPRING TERM.

Artillery Drill, Rifle Practice, Battalion Drill, Ceremonies, Signalling, Lectures on Customs of the Service, Camping and Practice Marches and Cavalry Drill.

The Cadets are at all times under military discipline, and strict observance of military customs is required.

Cadets are detailed as Adjutant, Officer of the Day, Guard, etc., in their turn, and are instructed in making out the different kinds of military reports; and are trained in the duties incident to field or garrison.

Military duties and exercises are so arranged as not to occupy the time that would otherwise be devoted to study. They are attended to at those hours which are generally passed by students in idleness, or devoted to useless amusements, for which they are made a pleasant, healthful and profitable substitute. They develop that bearing and those manly arts which always distinguish the soldier, while affording excellent physical training.

Military training prepares a young man's body, as discipline prepares his mind, to meet, with dignity and coolness, the emergencies sure to arise in his life, whatever his profession may be, and in moments of excitement or danger gives him that firmness and self-control that characterize the gentleman.

Norwich University numbers among its graduates many names which stood high in the profession of arms during the war with Mexico and the War of the Rebellion, and at the present time many of her graduates are serving with distinction as officers of the National Guard and the Regular Army of the United States.

Examinations are held in tactics, orders, duties and customs of military service, to insure familiarity with them.

COURSES OF STUDY.

Four regular courses have been established, as follows:

I. A course in Civil Engineering.
II. A course in Chemistry.
III. A course in Science and Literature.
IV. A course in Arts.

The courses in Civil Engineering and Chemistry have a distinctly practical bearing, and give a thorough training for the technical professions.

The course in Science and Literature is intended for such as may not wish to pursue a full course in Mathematics, or one for a distinctly scientific profession, and is designed to furnish a liberal preparation for the professions.

Each of these courses extends through four years, and is intended to give the student a liberal culture.

Changes are made in the course in Chemistry to meet the wants of students preparing for Medicine and Pharmacy. The

I. THE COURSE IN CIVIL ENGINEERING.

Leading to the degree of Bachelor of Science in Civil Engineering.

NOTE.—The figures after each subject indicate the number of recitations per week, or its equivalent.

FRESHMAN YEAR.

FALL TERM.—Algebra, 5; French, German or Latin, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Free Hand Drawing, 6; English, 1.

WINTER TERM.—Geometry, 5; French, German or Latin, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Lettering, 3; Tinting and Shading, 3; English, 1.

SPRING TERM.—Trigonometry, 5; French, German or Latin, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Mechanical Drawing, 6; English 1.

SOPHOMORE YEAR.

FALL TERM.—Analytical Geometry, 5; German or French, 5; Mechanics and Heat, 5; Descriptive Geometry, 3; Descriptive Drafting, 6; English, 1.

WINTER TERM.—Differential Calculus, 5; German or French, 5; Electricity and Magnetism, 5; Descriptive Geometry, 3; Shades and Shadows, Linear Perspective, and Isometrical Projection, 6; English, 1.

SPRING TERM.—Integral Calculus, 3; Land Surveying, Leveling, and Field Work, Use and Adjustment of Compass, Transit, and Level, 6 (text 2, field work 4); German or French, 5; Acoustics and Optics, 5; Detail Drawing, Tracing and Blue Prints, 6; English, 1.

JUNIOR YEAR.

FALL TERM.—Mechanics of Engineering—Statics and Dynamics, 5; Geology, 5; Colored Topography, Pen Topography, and Plotting of Surveys, 6; Advanced Surveying—

Topographical, Municipal, and Geodetic, 6 (text 2, field work 4); English, 1.

WINTER TERM.—Mechanics of Engineering—Materials, 5; Blowpipe Analysis and Determinative Mineralogy, 4; Qualitative Analysis, 6; Theory of Trusses and Arches, 2; Graphics of Trusses and Arches, 6; English, 1.

SPRING TERM.—Bridge Stresses, 3; Stone Cutting, 2; Mechanics of Engineering—Hydraulics, Retaining Walls, Masonry Dams, 3; Botany, 3; Drawing—Bridge Stresses, 4; Stone Cutting, 2; English, 1.

SENIOR YEAR.

FALL TERM.—Commercial Law, 5; Metallurgy, 2; Bridge Designing, 2; Railroad Engineering (curves, turnouts and practical location of railway), 8 (text 2, field work 6); Drawing—Railroad Maps, 4; English, 1.

WINTER TERM.—Constitutional or International Law, 5; Hydraulic and Sanitary Engineering, 5; Civil Engineering—Materials of Engineering, Foundations, Canals, Highways, 5; Drawing—Design of Bridges, 6; English, 1.

SPRING TERM.—Spherical Astronomy—Determination of Time, Latitude, etc., 3; Contracts and Specifications, 2; Political Economy, 5; Highway Engineering, 2; Railroad Engineering, 3; Preparation of Thesis, 5.

II. COURSE IN CHEMISTRY.

Leading to the Degree of Bachelor of Science in Chemistry.

FRESHMAN YEAR.

FALL TERM.—Algebra, 5; French, German or Latin, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Free Hand Drawing, 6; English, 1.

WINTER TERM.—Geometry, 5; French, German or Latin, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Lettering, 3; Tinting and Shading, 3; English, 1.

SPRING TERM.—Trigonometry, 5; French, German or Latin, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Mechanical Drawing, 6; English, 1.

SOPHOMORE YEAR.

FALL TERM.—French, German or Latin, 5; Mechanics and Heat, 5; Qualitative Analysis, 15; English, 1.

WINTER TERM.—French, German or Latin, 5; Electricity and Magnetism, 5; Blowpipe Analysis, 10; Qualitative Analysis, 10; English 1.

SPRING TERM.—French, German or Latin, 5; Acoustics and Optics, 5; Qualitative Analysis, 15; Land Surveying, 6 (text 2, field work 4): English, 1.

JUNIOR YEAR.

FALL TERM.—Geology, 5; Organic Chemistry, 2; Gravimetric Analysis, 15; Zoölogy, 3; English Literature, 2; English, 1.

WINTER TERM.—Organic Chemistry, 2; Gravimetric Analysis, 20; English Literature, 2; English, 1.

SPRING TERM.—English Literature, 2; Organic Chemistry, 2; Volumetric Analysis, 15; Botany, 3; English, 1.

SENIOR YEAR.

FALL TERM.—Commercial Law, 5; Metallurgy, 2; Toxicology, 10; Medical Chemistry, 10; English, 1.

WINTER TERM.—Constitutional or International Law, 5; Water Analysis, 10; Agricultural Chemistry, 10; Logic, 5; English, 1.

SPRING TERM.—Political Economy, 5; Gas Analysis, 15; Thesis, 5.

III. COURSE IN SCIENCE AND LITERATURE.

Leading to the Degree of Bachelor of Science.

FRESHMAN YEAR.

FALL TERM.—Algebra, 5; French, German or Latin, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Free Hand Drawing, 6; English, 1.

WINTER TERM.—Geometry, 5; French, German or Latin, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Lettering, 3; Tinting and Shading, 3; English, 1.

SPRING TERM.—Trigonometry, 5; French, German or Latin, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Mechanical Drawing, 6; English, 1.

SOPHOMORE YEAR.

FALL TERM.—Analytical Geometry, 5; French, German or Latin, 5; Mechanics and Heat, 5; Ancient History, 3; English Literature, 2; English, 1.

WINTER TERM.—French, German or Latin, 5; Electricity and Magnetism, 5: Calculus, 5; Mediæval History, 3; English Literature, 2; English, 1.

SPRING TERM.—French, German or Latin, 5; Acoustics and Optics, 5; Analytical Chemistry, 10; Land Surveying, 6; English Literature, 2; Modern History, 3; English, 1.

JUNIOR YEAR.

FALL TERM.—French, German or Latin, 5; Geology, 5; Zoölogy, 3; English History, 5; English Literature, 2; English, 1.

WINTER TERM.—French, German or Latin, 5; Analytical Chemistry, 10; Blowpipe Analysis, 4; English Literature, 2; States, 5; English, 1.

SPRING TERM.—French, German or Latin, 5; English Literature, 2; United States History, 5; Botany, 3; English, 1.

SENIOR YEAR.

FALL TERM.—French, German or Latin, 5; Commercial Law, 5; Metallurgy, 2; Psychology, 5: English, 1.

WINTER TERM.—French, German or Latin, 5; International Law, 5; Constitutional Law, 5; Logic, 5; English, 1.

SPRING TERM.—French, German or Latin, 5; Political Economy, 5: Astronomy, 3; Ethics, 3; Thesis, 5.

IV. COURSE IN ARTS.

Leading to the Degree of Bachelor of Arts.

FRESHMAN YEAR.

FALL TERM.—Algebra, 5; Memorabilia and Greek Prose, 5; Livy and Latin Prose, 5; Rhetoric, 2; Free Hand Drawing, 6; English, 1.

WINTER TERM.—Geometry, 5; Herodotus, 5; Horace—Odes and Epodes, 5; Rhetoric, 2; Tinting and Shading, 3; Lettering, 3; English, 1.

SPRING TERM.—Trigonometry, 5; Homer's Odyssey, 5; Horace—Satires and Epistles, 5; Rhetoric, 2; English, 1.

SOPHOMORE YEAR.

FALL TERM.—Sophocles, 3; Juvenal's Satires, 3; Mechanics and Heat, 5; Ancient History, 3; English Literature, 2; English, 1.

WINTER TERM.—Demosthenes, 3; Tacitus, 3; Electricity and Magnetism, 5; English Literature, 2; Mediæval History, 3; English, 1.

SPRING TERM.—Æschylus, 3; Cicero's Select Letters, 3; Acoustics and Optics, 5; English Literature, 2; Modern History, 3; Land Surveying, 6; English, 1.

JUNIOR YEAR.

FALL TERM.—Demosthenes, 2; Pliny, 2; Geology, 5; French or German, 5; Inorganic Chemistry, 5; English Literature, 2; English, 1.

WINTER TERM.—Plato, 2; Plautus, 2; Inorganic Chemistry, 5; French or German, 5; English Literature, 2; Colonial History, 5; English, 1.

SPRING TERM.—Greek Syntax, 2; Latin Syntax, 3; French or German, 5; Inorganic Chemistry, 5; English Literature, 2; United States History, 5; English, 1.

SENIOR YEAR.

FALL TERM.—Analytical Chemistry, 10; French or German, 5; Commercial Law, 5; Psychology, 5; English, 1.

WINTER TERM.—French or German, 5; International Law, 5; Constitutional Law, 5; Logic, 5; English, 1.

SPRING TERM.—French or German, 5; Political Economy, 5; Thesis, 5; Astronomy, 3; Ethics, 3.

Military instruction throughout all courses the same as laid down in the Military Course.

TEXT-BOOKS AND BOOKS OF REFERENCE.

MATHEMATICS.—Astronomy, Young. Algebra, Wells' University. Analytical Geometry, Loomis. Calculus, Taylor. Geometry, Davies' Legendre. Mechanics, Church. Trigonometry, Davies. Descriptive Geometry, Church.

ENGINEERING.—Land Surveying, Hodgman. Advanced Surveying, Johnson. Railroad Surveying, Carhart. Bridge Stresses, Merriman. Civil Engineering, Mahan and Traut-

wine. Specifications, Haupt. Hydraulic Engineering, Fanning. Sanitary Engineering, Adams. Stereotomy, Mahan. Stresses in Framed Structures, Johnson and Bryan. Wellington's Earth Work Computation. Foundations, Patton. Bridge Designing, Merriman.

Sciences.—Botany, Gray's School and Field Book. Chemistry, Inorganic, Shepard. Chemistry, Analysis, Qualitative, Elliott, Fresenius. Volumetric Analysis, Sutton. Analysis, Quantitative, Fresenius. Organic Industrial Chemistry, Sadtler. Blow-pipe, Plympton's Qualitative, Plattner's Qualitative and Quantitative, by Cornwall. Metallurgy and Assaying, Hiorn's Text-Book of Elementary Metallurgy, Hiorn's Practical Metallurgy and Assaying. Agricultural Chemical Analysis, Frankland. Medical Chemistry, Ralfe's Clinical Chemistry. Organic, Remsen. Physics, Gage's Elementary, with lectures on special subjects. Zoölogy, Packard. Geology, Winchell's Geological Studies. Mineralogy, Dana's Manual, and Foye's Tables. Food Adulteration and its Detection, Battershall.

History, Political Science and Law.—History: Ancient, Mediæval and Modern, Myers. English, Montgomery. Political Economy, Walker. Psychology, James. Logic, Jevons. Ethics, Muirhead. International Law, Davis. Constitutional Law, Cooley. Commercial Law, Townsend. The State, Wilson. Johnston's American Politics.

Modern Languages.—French: Edgren's French Grammar; Super's French Reader: French Literature. German: Otis' German Grammar; Joynes' German Reader; German Literature.

English.—Rhetoric: Clark's Practical Rhetoric; Genung's Practical Rhetoric. Elocution: Clark's Notes on Reading; Bacon's Manual of Gesture. English Literature, Arnold.

Military Science.—Drill Regulations for Infantry, Cavalry and Artillery. Burnham's Duties of Guards and Outposts. Pettit's Elements of Military Science.

DEGREES.

The candidate for any degree must deposit with the Faculty a satisfactory thesis on some scientific or literary subject connected with his department.

DEGREES OF GRADUATION.

The degree of Bachelor of Science in Civil Engineering is conferred upon any student who has completed the course in Civil Engineering.

The degree of Bachelor of Science is conferred upon any student who has completed the course in Science and Literature.

The degree of Bachelor of Science in Chemistry is conferred upon any student who has completed the course in Chemistry.

The degree of Bachelor of Arts is conferred upon any student who has completed the course in Arts.

ADVANCED DEGREES.

The Master's degree in Science or Arts is conferred upon graduates of this University of three years' standing who have taken the corresponding Bachelor's degree, and who, during that time, have been engaged in professional, literary or scientific pursuits, or have pursued a course marked out by the Faculty, for two years after graduation, and have passed the examinations.

The degree of Civil Engineer is conferred upon graduates in Civil Engineering of three years' standing, who have pursued the profession of engineering during that time, have passed the requisite examinations, and have presented a satisfactory thesis; or upon graduates who have completed a post-graduate course.

The work of the first year in this department is common to all courses. The thorough training of the eye and hand in Free Hand Drawing is of the greatest importance in all subsequent drafting. The course embraces accurate outline drawing, elementary perspective, sketching, object drawing, pencil shading and designing. The effort is made to produce designers, instead of mere copyists. Practice in lettering large and small drawings, general orders, etc., also in tinting and shading with the right line pen, and with brush and water colors, is given in the second term. Neatness of text and rapidity of execution are aimed at. In the third term, dexterity in handling drafting instruments is acquired. Various applications of geometry to drafting, and the orthographic and isometric projections of joints and splices in wood construction are taught. Descriptive Geometry is taught in the fourth and fifth terms, with special reference to its application to shades and shadows, machine construction, stone cutting, and to the design of stone bridges, culverts, spiral stairways, sewer intersections, etc.

The course in bridges begins with the drawing of details, which are measured by students while visiting engineering structures. Thus, while the student acquires facility in drawing, he becomes familiar with the various details of a bridge. An extended course in Bridge Stresses is given in the ninth term, and in the eleventh term the student is given specifications, and required to apply his theoretical knowledge in designing railway and highway bridges of wood, iron and steel,

to the minutest details. In Pen Topography and Colored Topography the students use the conventions for map making and apply them in the maps platted from the land and railroad surveys.

An extended course in Applied Mathematics, or Mechanics of Engineering, is given, in which engineering problems concerning rigid bodies at rest or in motion, the strength of engineering materials, and the statics and dynamics of liquids and gases are practically treated.

The laboratory work of the eighth term and the Metallurgy of the tenth enable the student to study the materials of engineering with regard to strength and constituents. Under Hydraulic, Sanitary and Civil Engineering, the design and construction of water supply and distribution systems, sewerage systems, and sewage disposal, and of canals, tunnels, foundations in water and on land, and river and harbor improvements, are treated.

Six hours of drafting per week are required throughout the course, and while the above subjects are being studied, numerous designs of engineering structures are made in the drafting room. In the Reading Room are placed the best of engineering periodicals, which give descriptions of all new works of special interest, and enable the student to keep up with the latest methods of construction.

In Land Surveying and Levelling, practice in using and adjusting instruments is given, and the most approved methods of map making, dividing up and parting off land, and supplying omissions in old surveys are taught both in classroom and field. The advanced surveying of the seventh term includes Topographical, Geodetic and City Surveying, with field work and practice in the drawing room.

The highway engineering of the last term is calculated to teach the student the essential principles of this branch of engineering, which is just now so prominent.

In Railroad Surveying the field work consists of preliminary

surveying, final location, slope staking, etc. Office work is given in making contour maps of the line, profiles, earthwork calculations, estimates of cost, etc. The lectures on Economic Railway location enable the student to decide between two or more proposed railway lines, and to reduce expenditures in the operation of lines already built.

In the last term students are required to make specifications and contracts for engineering projects of their own design. The course given in this term in Astronomy provides the engineer with as much of this subject as his profession requires.

EQUIPMENT.—The department has a collection of designs for Free Hand and Perspective Drawing, and for modern houses, cottages, public buildings and architectural details. It has also collections of blue prints of the best modern bridges, including pivot draws, plate girders, and various types of pin-connected and riveted trusses, and blue prints of sewer details and sewer constructions. It has a collection of models of wooden splices and joints used in bridge construction and carpentry, and of details of machine construction.

The department has procured the best modern instruments for angle and line measurement, including transits, compasses, levels, plane table, sextant, rods, chains, etc., and is prepared to give as much of practical engineering field work as can be given in schools, with the first-class instruments now used in modern engineering.

MATHEMATICS.

In the department of Mathematics, sufficient attention is paid to practical applications to enable students to see the utility of their studies, and to assist them in the scientific professions.

Theory is developed in as careful and complete a manner as possible, in order that the student may receive that mind discipline which is so valuable an equipment for all pursuits, whether technical or general.

The clearest and most concise text-books are sought for; abstruse and unprofitable discussions are avoided; original work is encouraged, and students are called on for personal recitations more frequently than in most institutions of similar character.

GEOLOGY AND MINERALOGY.

The treatment of Geology consists of text-book work, supplemented by frequent excursions in the field, in which the many interesting features of the region are examined. Colored maps, representing the geological formations of counties or larger sections, are required. Mineralogy is taken up in connection with Geology, the student being required to identify minerals by their physical properties. In connection with this work each student is required to make a collection of fifty minerals, which he determines and classifies. To aid him in his work, he is given instruction in Blow-pipe Analysis and Determinative Mineralogy. Through the generosity of the late Philander D. Bradford, the university has acquired a valuable collection of minerals.

HISTORY AND POLITICAL SCIENCE.

The course in History affords a connected and comprehensive view of the history of civilization from the earliest times to the present. By investigating the causes which underlie the world's history, the instruction aims, not only to train the memory and develop the reasoning faculties, but to fit men to deal wisely with those practical social questions of the present, upon whose solution the experience of the past throws the most valuable light. Particular attention is given to the constitutional development of England and of the United States.

Political Economy is taught in the Senior year by means of text-books, lectures and informal discussions. A theoretical view of the subject is followed by a practical study of Land

Principles of Taxation, and Tariffs.

PSYCHOLOGY.

An examination of the different sources of knowledge, an analysis of the various mental states, and a classification of the faculties, are followed by a study of the relation of psychology to education, for the benefit of those students who may desire to engage in teaching. The laws governing the processes of acquiring and reproducing knowledge, the development of the faculties, together with the ways in which they interact one on another, and the play of motives, furnish the foundation of rational instruction and government, and are of special value to the teacher.

LOGIC.

Logic is taught by recitations and informal lectures. The objects of this study are to give the student vigorous mental discipline, training in exactness, and certainty in thinking, skill in detecting fallacy, and assistance in all the sciences by directing attention to those points of method in each science, which the cultivator is apt neglect in his zeal for the subject matter of each.

The unfolding of the laws of thought by an analysis of the Notion, Judgment and Reason, is made the basis of many exercises in the opposition and conversion of propositions, logical division, definition, classification, analysis, synthesis, application of the rules of the syllogism to arguments, and the detection of fallacies. In Induction, the methods of scientific investigation and proof are considered in connection with a study of the history of some one of the natural sciences.

MODERN LANGUAGES.

The chief aim of this department is to enable the student to read French and German with ease and fluency. By this

method it is intended, not only to familiarize the ear with the spoken language, and thus to lay the best groundwork for conversation, but also to render easy and intelligible the grammar work and reading which follow.

After a thorough course in the essentials of grammar, accompanied with composition and the reading of easy prose, are read various selections of prose and poetry from the best authors.

Much attention is given to the relation of the languages to English and to each other, especially in the matter of derivative and cognate words.

To enrich the student's English vocabulary, to cultivate his taste for good literature, and to broaden his mental horizon, are further objects of the instruction.

RHETORIC, ENGLISH CRITICISM, AND ELOCUTION.

The instruction in this department aims to deal in the most practical way with the composition and delivery of good English. The work, which is uniform in all courses, is continuous throughout the four years.

In Rhetoric, to which subject is devoted two hours each week during the Freshman year, much of the time is spent in the application of the principles of Rhetoric to the correction of faulty sentences. This instruction is supplemented, during the remainder of the course, by lectures on the higher qualities of style, in connection with the essay work. As to punctuation, paragraphing, etc., students are required to present their essays and manuscript orations in proper form for publication.

In English Criticism, while it is sought to eradicate faults of style, especial attention is given to the development of the student's individuality and power of expression. An important feature is the critical examination of English prose masterpieces, which is made in connection with the study of English Literature. Essays and orations are carefully revised,

returned to the writers for correction, and afterward read and criticised in class. That the student may learn to study his subject comprehensively, and to arrange its parts logically, instruction is given in the formation of essay outlines.

In Elocution, the chief ends sought are distinct and forcible utterance, just emphasis, and ease and naturalness of expression.

RHETORICALS.

Friday afternoon of each week is devoted by the entire corps of cadets to rhetorical exercises, in which each cadet is required to take part every third week. The exercises are varied, consisting of declamations, essays, orations, debates, presentation and acceptance speeches, etc. Much stress is laid upon the subject of extempore speaking. Each cadet is required to rehearse before a member of the Faculty before appearing at rhetoricals. At the close of each rhetorical session, the members of the Faculty make criticisms and suggestions upon the work done. Occasionally, in place of the regular rhetorical work, the corps organizes itself into a senate or other deliberative body, to gain familiarity with parliamentary law.

Experience has shown that four years of participation in these exercises insures, even to the diffident, that ease and fluency in public speaking which is so important a factor in the various walks of life.

BOTANY.

The course in Botany begins in the spring term of the Junior year, and comprises Vegetable Morphology and Physiology, Plant Analysis, and the preparation of Herbaria.

The life history of vegetation is traced from seed through stems and roots, leaves, branches, buds, flowers and fruit, to seed again.

Gray's Lessons are used, with lectures and field work. The fall term is devoted mainly to Classification and Histology. A few of the more difficult orders of Phænogams are studied. Attention is given to the various kinds of parasitic fungi so destructive to crops.

ZOÖLOGY.

Structural Zoölogy is taught by recitations and by laboratory demonstrations. Dissections and drawings are made of representative species in each group of animals. The purpose of this course is to give the student a definite conception by means of sense-images of the characteristic structure of the leading modifications of the Animal Kingdom.

PHYSICS.

The treatment of Physics consists of text-book work, with frequent experiments. The work in Mechanics is still further treated under a separate head. Especial attention is given to Electricity and Magnetism, and the student is required to do actual work in wiring, etc., making computation of resistance in telegraph and electric light wires. He is also taught the principles of various electrical machines, and is encouraged to make models. The class is taken to visit electric plants, where the principles taught in the class room are practically applied.

CLASSICS.

It is the aim of the Classical Department to make the work as thorough as possible, and to give the student a general literary culture. A thorough knowledge of grammatical forms is considered necessary, and especial attention is given during the first year to etymology and syntax, vocabulary and idioms. In this manner not only a thorough knowledge of the language is obtained, but the greatest possible amount of mental discipline is derived. The similarity between the Greek and Latin

on the one hand, and the English on the other, is pointed out, and especial study is given to roots from which English words are derived. The course is designed to embrace all the leading classes of composition in Greek and Roman literature, and to afford accurate historical knowledge of the Greek and Latin characters and customs. Attention is given to right translation, and care is taken that the student translates into good English, that he may thus improve his knowledge of English in the study of the classics.

CHEMISTRY.

The study of Chemistry is begun by students in all courses, except that of Arts, in the Freshman year. It consists during this year of lectures and recitations upon general Inorganic Chemistry, in which the principles of the science are brought out and fully explained. Following this is a description of the properties of elements and compounds, and of the methods used for preparing them. To bring this work more clearly before the student, a large number of experiments are performed before the class, in many of which the students are permitted to assist.

In addition to the recitations, two hours a week are devoted to laboratory practice, in which the student performs for himself the experiments given in the section room. The second year's work is intended for those who take the Chemical Course, and consists of daily laboratory practice. The work of this and of the following years is performed by the students themselves, under the direction of the professor and his assistant. Qualitative examinations of minerals, commercial products, fertilizers, drugs and medicines are made, and as the student becomes more advanced, quantitative examinations of the same substances are made. For those students desiring to fit themselves for the study of Medicine and Pharmacy, special instruction is provided in the Chemical Laboratory.

ACKNOWLEDGEMENTS.

A list of gifts received since the publication of the last Catalogue, and for which acknowledgements are due, is as follows:

DONOR.	GIFT.
Gen. G. M. Dodge, '53,	Cash for advertising
Chas. A. Silver,	One Scholarship
Mrs. Alden Partridge,	Cash for Endowment
H. W. Holley, '50,	One volume Poems
W. R. Dorr, '73,	The Century Dictionary
W. E. Hurlbut, '93,	One Steel Tape, 100 feet
J. B. Johnson, '79,	One Locke Level
F. N. Whitney,	Journals for Reading Room
F. L. Howe, '80,	" " "
L. B. Johnson, '88,	" " "
J. W. Ramsay, '84,	" " "
C. C. Brill,	" " "
H. C. Dole, '77,	" " "
C. H. Davenport,	" " "

FINALLY.

It is the aim in all the departments of the University to teach students the practical application of what they study. Mere theories are of little value unless the student can apply them successfully. Too many college graduates have failed in their profession from being unable to apply theory to practice, and it is this lack which we endeavor to supply in our students.

This institution was founded in 1819;
Partridge, of whom a cut appears in this C
known as the American Literary, Scien
Academy. It retained the name until N
when a charter of incorporation was grante
Vermont, under the name of Norwich Univ

Thus was founded the FIRST Scientific,
tary College in the United States. This
with universal favor, and its halls were
young men from every State in the Union.

In March, 1866, the University building
destroyed by fire, and the University was
field, Vt., where the citizens had offered
commodious barracks. Here the same sy
and military discipline is maintained, and
have been enabled to go forth to fill high
professions.

This was the first institution in the cou
purely scientific course of study, and up
Rebellion the only one which embraced
thorough military, classical and scientific
work for half a century, Norwich Universi
dence of the public. Special attention ha
Military Science and Engineering, her grad
particularly distinguished as army officers a
some having risen to the foremost rank.

SCHOLARSHIPS.

Thirty State scholarships, covering tuition in any of the departments, and room rent, are now available.

Young men residing in Vermont who may be desirous of obtaining a State scholarship should first apply to the Superintendent of the University for information as to whether a vacancy in their county exists. Learning of a vacancy, application should then be made to the Senators of the applicant's county.

In addition to the above, a number of half-scholarships have been created, by benevolent friends, for the benefit of needy young men who desire to enter the University.

Young men desiring to take advantage of the scholarships hereby offered should address the SUPERINTENDENT at Northfield.

GENERAL INFORMATION.

EXPENSES.

A prominent feature of the University is the very reasonable charges for instruction and the low expense of living. The charge is $85 per year for instruction, room rent and incidentals. Students pay for board and laundry at the University Mess Hall, $3.25 per week, which makes the whole expense less than the living expense alone in cities, and at other institutions of learning.

The following table gives a statement of the expenses:

Tuition per college year,	$ 65 00
Room rent,	15 00
Library and contingent expenses,	5 00
Board and laundry, thirty-six weeks,	117 00
Total for year,	$202 00

Uniform complete, including Regulation Fatigue Suit and Dress Coat, Helmet and Fatigue Cap, $40.00.

The charge for room rent is based upon the supposition that two students occupy the same room. Rooms are unfurnished. Students bring bed linen, blankets and towels. Second hand furniture can be bought at low prices, and sold at a slight reduction.

A room can be furnished at a cost of from $10 upwards, to each occupant.

Cadets who are appointed buglers receive $50 per year for their services.

Bills are payable strictly in advance.

Students in the course in Chemistry are required to deposit $10 at the beginning of each term of the Sophomore, Junior and Senior years, the amount not consumed being returned at the end of each term.

In the Engineering course in Qualitative Analysis, $3 is charged for chemicals in the second term of the Junior year.

In the other courses a fee of $5 per term is charged for Qualitative Analysis.

A fee of $3 per term is charged for Determinative Mineralogy.

One dollar per term is charged members of the Freshman class taking the laboratory work in connection with the Inorganic Chemistry, for chemicals.

These charges are for chemicals, and do not include breakages or waste of materials. The average expense for materi-

als for students in the Chemical course is from $6 to $8 per term.

The Wells River Railroad allows students half fare, and the Central Vermont carries students for two cents per mile on certificates, to be obtained through the Superintendent of the University.

For further information, address either the ACTING PRESIDENT, or the Superintendent, at Northfield, Vt.

BUREAU OF INFORMATION.

A Bureau of Information has been established by the University. It is intended that this bureau shall serve in assisting graduates in obtaining desirable positions as Teachers, Engineers, Chemists, etc. Those of the Alumni who desire such positions should send their addresses to the Superintendent, that they may receive the benefit of the numerous applications for men, of which the University is constantly in receipt. The value of this feature is attested by the comparatively large number of graduates who, since its establishment, have found lucrative positions without trouble or expense to themselves.

THE REVEILLE.

The Cadets conduct a monthly magazine devoted to the interests of the University, the Alumni, and the Corps itself. Upon this paper excellent drill in journalism is afforded the Cadets.

EXEMPTIONS FOR REVEILLE WORK.

The Editor-in Chief and Business Manager of the "Reveille" shall be allowed an option between exemption from one-half their rhetorical work and exemption from five hours' work for one term in a year, or an equivalent.

The other members of the Editorial Staff, viz.: Literary, Personal, Local and Exchange Editors, and the Assistant Business Manager, shall be allowed the same exemption from

rhetoricals or exemption from three hours' work for one term.

Exemptions from studies will be allowed only in the following courses: History, English, Law and Philosophy.

READING ROOM.

A reading room is maintained by the Cadets, which is provided with the leading literary, political and technical periodicals of the day.

MESS HALL.

The University Mess Hall is a large building, in which several members of the Faculty, with their families, reside, and where they, with the corps of Cadets, take their meals.

STUDENTS' SOCIETIES.

Two literary societies exist among the students, in which valuable literary work is done, while at the same time social privileges are enjoyed. These societies are in every way approved by the authorities.

STUDENTS ENTERING

should report upon arrival to the Superintendent, who will give them all necessary instructions as to examinations, etc. The Superintendent will also assign each new student to quarters in Cadet Barracks.

SPRING ENCAMPMENT.

The last two weeks of the spring term are spent in camp, and the Corps receives instructions in all the details of camp life, together with guard duty. While in camp a general review of all the drills is made to insure familiarity with them. During this encampment considerable time is devoted to attack

EXTENDED MARCHES.

The encampment may be varied by extended marches about the State. During the encampment and on the march the Corps is at all times under the command of the Commandant of the University, who is responsible for the conduct of the Cadets.

RELIGIOUS FEATURES.

Prayers are held before the opening of academic exercises on each week-day morning. The following clergymen, who are active resident clergymen of the town, conduct morning exercises: Rev. William S. Hazen, D. D., Rev. George J. Sutherland and Rev. Charles R. East. On Sunday morning each Cadet is required to attend divine service with some one of the village congregations, the choice being made at the beginning of the term by the Cadet himself, if of age, or otherwise by his parents or guardians, and adhered to throughout the term. The societies of the village are: Congregationalist, Episcopal, Methodist, Roman Catholic and Universalist. While Cadets are held to a strict observance of the rules for religious exercises, and while all immoralities are carefully guarded against, yet the institution is in every respect nonsectarian.

PRIZE SPEAKING.

There have been established three prizes of $15, $10 and $5, respectively, to be contested for by those members of the Sophomore and Freshman classes who show the greatest merit in declamation in a contest held during Commencement week. Prize winners in previous contests are debarred from competing.

HONORABLE MENTION.

The student having the highest general average in his class for the year, providing such average be at least 90 per cent,

receives honorable mention at the annual Commencement, and the honor list is printed in the annual Catalogue.

SENIOR MEDALIST.

The member of the Senior class who graduates with the highest general study average receives the Faculty Gold Medal.

COMMISSIONED OFFICERS.

Upon graduation Cadet officers receive commissions signed by the President of the University, and by the Adjutant and Inspector-General of the State.

CONDITIONS.

A student deficient in work up to the end of the winter term of any year is not ranked with the next class until such work is made up. No Cadet is eligible for a Commencement honor who has not made up all deficiencies before the first Saturday of the spring term of his Senior year. The operation of this rule may be suspended by vote of the Faculty in those rare cases which warrant such action.

ENDOWMENT.

The plan for increased endowment, which has been presented to the friends of the University, has met with a hearty reception, and a considerable amount has already been subscribed. With the rapid growth of the institution, and the large increase in the number of students, new and greater demands are made upon her. To meet these demands a larger endowment is necessary, and it is earnestly hoped that the Alumni and friends of Norwich University will do their par

NORTHFIELD, VT., June 27, 1889.

A business meeting of the Alumni and Past Cadets of Norwich University was called to order at 4.30 P. M., with President Joseph Stedman in the chair.

Prof. J. B. Johnson of Northfield was elected to receive subscriptions and donations toward a permanent endowment fund, the income to be used for the current expenses of Norwich University and support of the Faculty and to be held by him in trust for that purpose only, excepting that, if the University cease to exist, then in trust for the donors.

Further, said Johnson to give good and sufficient bonds for the faithful execution of his trust in a sum not less than $5,000, and with at least two responsible sureties. The bond as drawn and signed to be approved by J. C. B. Thayer, Treasurer of Norwich University.

Moneys and communications concerning endowment may be sent to the Trustee of the Fund, Prof. J. B. Johnson.

MILITARY FEATURE.

Throughout the history of the University there has been maintained a very high standard of Military excellence. From the first it has held the distinction of being the foremost Military institution in the land, with the exception of the National Academy. The following, from Gen. W. T. Sherman's speech before Ransom Post, St. Louis, Mo., will sustain the above statement regarding this University. In speaking of General T. B. Ransom, he says: "He became Principal of Norwich University, THEN, as SINCE, an Academy of great renown. This military school at one time almost rivaled the National Academy of West Point, and there many a man who afterwards became famous in the Mexican and Civil wars first drank in the inspirations of patriotism and learned the lessons of the art of war." The reputation of the New England regiments must be attributed to discipline and instruction received

at this institution, as much as to any other single factor; and the "Green Mountain Boys" owe their national reputation and success largely to their training within her halls. Her Honor Roll in the late Civil war contains the names of twelve generals (among them Generals Dodge, Buel, Seymour, Wright, Ransom), twenty-five colonels, forty field officers, fifty-five captains, one hundred and forty-three lieutenants, and a long list of non-commissioned officers. It has been the highest endeavor of the Trustees and Faculty to maintain in every respect the military reputation of the University. Attention to the course of Military Instruction will give a fair idea of the training given, and a copy of the Rules and Regulations will give a complete statement of the duties required of Cadets.

GENERAL STATEMENT.

Norwich University is distinctively a military institution, but it is in no way reformatory in its nature.

The aim of the institution is to maintain a regular routine of military duty, which affords most valuable training to the young man engaged in study.

While strictly maintaining the military system, the student is allowed every liberty consistent with the system. It is only when wilful infractions of properly constituted authority occur that the impersonal working of the military system exerts its corrective influence.

STANDING, MILITARY CUSTOMS, ETC.

Academic standing depends upon recitations; military standing upon marks of merit and demerit, together with proficiency in military duties. Immoralities, technical and minor

offences, are marked with demerits, and are punishable in other ways. Whenever purely academic duties require variation in special matters, the analogies of military usage are maintained, so far as practicable. The students are called cadets, and are under military discipline. The cadet officers are appointed on the basis of military and academic standing. Every cadet is required to wear the uniform of the University when on duty.

UNIFORMS.

A single-breasted dress coat of dark blue cloth, University buttons; trousers dark blue with light red stripe; black cravat; standing collar; U. S. regulation helmet, with usual gilt ornament; forage cap; boots or high shoes of black, unglazed leather. The commandant furnishes accurate directions for the tailor's use, if desired.

Sufficient time is given for students to wear out their citizen's suits before they are required to procure uniforms.

LIBRARY AND COLLECTIONS.

The University library is very well supplied with works of reference, and in addition contains many works of great value which are not to be found in newer libraries. The mineral collection is ample for the purpose of instruction. Manufacturers, dealers in building materials, and others, are requested to send specimens of their products to the Department of Engineering. Specimens in Natural History, Minerals, etc., will be gladly received by the Superintendent. Alumni, Past Cadets, Authors and Publishers are earnestly requested to contribute their publications to the University Library.

RECOGNITION BY STATE AND GENERAL GOVERNMENTS.

The fact that the State of Vermont has recognized Norwich University by making her Corps of Cadets a part of the State

Militia and by granting her free scholarships, shows the extent to which the State Government values the institution as a training school for the citizen soldier, and attests her gratitude for services already rendered. For like reasons the United States Government has detailed an active army officer for duty at the University as Professor of Military Science.

RESIDENT IN BARRACKS.

A member of the Faculty resides in the Barracks with the cadets, thus insuring a strict observance of rules and regulations.

LOCATION.

Northfield being located on the main line of the Central Vermont railroad is easy of access from all directions, and students are given reduced rates upon application. Telegraphic communication can be had directly with the University Barracks, through the Western Union Company. There is probably no State that can boast of a more healthful climate than Vermont. Northfield is in the central part of the State, and is ten miles from the Capital, Montpelier. A popular resort in summer, it loses none of its healthfulness in winter. The water is pure and clear, and the University and village are

ROUTINE OF DUTY.

Reveille, 6.30 A. M.; Police Call and Inspection of Quarters, 7 A. M.; Breakfast, 7.30 A. M.; Prayers, 8.45 A. M.; Study and Recitation hours from 9 A. M. until 12 M.; Dinner, 12.15 P. M.

Afternoon Roll Call, 1.35 P. M.; Study and Recitation from 1:45 P. M. until 3:45 P. M.; Drill, 4:10 P. M. until 5:10 P. M.; Supper, 5:30 P. M.; Retreat, 7 P. M.; Taps, (Lights out) 10 P. M.

Retreat on Friday, Saturday and Sunday nights at the formation for supper. On Friday and Saturday nights taps at 10:30 P. M.

SUNDAYS.

Police Call, 7:30 A. M.; Breakfast, 7:50 A. M.; Sunday Morning Inspection, 9:30 A. M.; Church, 10:30 A. M.; Dinner, 1:20 P. M.; Supper, 5 P. M.

On Friday nights there is release from quarters until 11 P. M. for Seniors, and until 10:30 P. M. for other Cadets.

On Saturday nights all Cadets are allowed to attend society meetings until 10:30 P. M. without permits.

Permits are granted to Cadets in good standing to go out for social purposes on Saturday or Sunday evening as they may elect.

The foregoing routine is varied during the Spring Term and the Annual Encampment, as circumstances may render best.

The President, with the concurrence of the Faculty, periodically issues a detailed list of calls, and directs such additional roll-calls and makes such changes in the foregoing routine of duty as the discipline of the corps and changes in Academic and Military duty may necessitate.

CIATE ALUMNI AND PAST CADETS.

ion of the Trustees, the Alumni and Past Cadets are o elect one of the Board of Trustees each year. At g held on Wednesday, June 26, 1889, it was decided meetings of the Association shall hereafter be held an- on the day preceeding Commencement, at 10 o'clock in noon.

OFFICERS FOR 1893-'94.

President:

CHARLES DOLE, '69, Northfield, Vt.

Vice-Presidents:

One from every class represented.

retary and Trustee of the Alumni Endowment Fund:

J. B. JOHNSON, '79, Northfield, Vt.

Treasurer:

H. C. CADY, '91, Northfield, Vt.

mmittee on Increasing the Alumni Endowment Fund:

N. L. SHELDON, '84, Boston, Mass.
D. E. WILMARTH, '84, Boston, Mass.
R. L. IRISH, '89, Brooklyn, N. Y.

embers of the Association not present may vote by written ...al election of Trustees. It is therefore im-

... Secretary informed of

EUNION IN BOSTON.

ERS FOR 1895.

'resident:

'ARD F. HILL, '68.

-Presidents:

B. EATON, '40.
H. CROSS, '63.
W. LEWIS, '90.

Secretary:

., '84, Boston, Niles Building.

Treasurer:

D. THOMAS, '76.

t Fund Committee:

LLESTER, '56.
IAS, '76.
DON, '84.
TON, ESQ.
RD F. HILL, '67.

NEW YORK ALUMNI ASSOCIATION.

ANNUAL REUNION IN NEW YORK CITY.

OFFICERS FOR 1895.

President:

GRENVILLE M. DODGE, '53.

Vice-Presidents:

CYRUS H. FAY, '37.
CLAYTON E. RICH, '63.
WM. R. MEAD, '64.
WILLIAM M. RUMBAUGH, '76.

Secretary and Treasurer:

ROBERT L. IRISH, '89,
143 Myrtle Ave., Brooklyn, N. Y.

GRADUATES OF 1890.

C. F. PARKER,
Civil Engineer, with J. W. Ellis, Woonsocket, R. I.

C. E. COLLINS,
Civil Engineer for Pittsfield, Mass.

S. B. ADAMS,
Boiler Inspector, Boston, Mass.

D. W. LEWIS,
Clerk, Boston and Maine Railway.

HERMAN DRESSEL, JR.,
Principal North Bennington High School.

H. J. DANE,
Pharmacist, Northfield, Vt.

I. R. MOWER,
Pharmacist, Chicago, Ill.

J. H. JUDKINS,

GRADUATES OF 1891.

GEORGE FRANKLIN ABBOTT,
Civil Engineer, West End Street Railway, Boston.

ALFRED FREDERICK BOOTH,
Theological Student, St. Lawrence Univ., Canton, N. Y.

EDWARD AIKEN SHUTTLEWORTH,
2d Lieut. 11th Inft., U. S. Army.

WILLIAM HIBBARD SPRAGUE,
Merchant, East Brookfield, Vt.

HARRY GORDON WOODRUFF,
Collection Clerk Amoskeag National Bank,
Manchester, N. H.

ETHAN ALLEN SHAW,
Principal Graded School, Wells River, Vt.

CARL GILMAN DOLE,
Stenographer, West Superior, Wis.

HEBER CALVIN CADY,
Assistant Cashier, Northfield Savings Bank.

BURTON WILEY FARNHAM,
Civil Engineer in City Engineer's Office, Lowell, Mass.

FRED MINER GOODHUE,
Hydraulic Engineer, Department of Locks and Canals,
Lowell, Mass.

PERCY GATES SMITH,
Division Engineer, S. S. & E. B. Railway.

CLARENCE BONNETT RIGGS,
Business, Middlebury, Vt.

GRADUATES OF 1892.

E. W. CLARK,
Civil Engineer, West End Street Railway, Boston.

J. S. CRAIGUE,
Civil Engineer, Boston, Mass.

C. J. C. EVANS,
Civil Engineer, with J. W. Ellis, Woonsocket, R. I.

C. W. PIERCE,
Associate Editor of the Bennington *Banner*.

R. H. FORD,
Civil Engineer, Central Vermont Railway.

E. H. RYAN,
Civil Engineer, Denver, Col.

D. C. WEBB,
Civil Engineer, Boston, Mass.

B. W. GLEASON,
Medical Student, Harvard University.

G. L. Andrews,
Pharmacist, N

E. C. Bennett,
Law Student,

E. W. Gaynor,
Principal of Grammar

F. A. Gokey,
In busines

F. D. Holbrook,
Civil Engi

W. E. Hurlbut,
Principal of Graded Sch

F. A. Manuel,
Manufact

H. N. Mattison,
Assistant Cashier, Northfi

O. L. Pease,
With Wholesale Drug H

GRADUATES OF 1894.

L. B. CLOGSTON,
Draftsman Jamaica Plain, Mass.

E. W. GIBSON,
Principal of Chester, Vt., Graded School.

H. L. HINMAN,
In business at Coös, N. H.

H. C. HOLDEN,
Civil Engineer, with French & Bryant, Brookline, Mass.

L. C. HULBURD,
Topographical Engineer, Evansville, Ind.

J. E. ROSS,
Topographical Engineer, Grand Rapids, Mich.

R. U. SMITH,
Law Student, Wells River, Vt.

G. E. STORRS,*
Principal of Whitcomb High School, Bethel, Vt.

H. H. STEARNS,
Topographical Engineer, Richmond, Va.

* Deceased.

For Graduates previous to 1890, see Alumni Record.

Valedictorian.

JAMES ERNEST ROS

Salutatorian.

GEORGE EBER STOR

Senior Gold Medali

RAYMOND UNDERWOOD S

HONORABLE MENTI

RAYMOND UNDERWOOD SM
WALTER GEORGE HUNTLE
JAMES LELAND AVERILL,
CHARLES ERNEST WALKEI

WINNERS IN PRIZE SPE

1st Prize, HERBERT SAWYER
2d Prize, FRED BARNES THO
3d Prize, CHARLES S. CARLE

Cadet 1st Lieut. and Quartermaster.

ERILL, Cadet Sergeant-Major.

, Cadet Quartermaster-Sergeant.

T COMPANIES.

"A."

HUNTLEY.

R FLETCHER CARRUTHERS.

ut. PHILO REMINGTON HOEFLER.

2d Lieut. RAY STORRS DOWE.

"B."

YAN.

RRY CHESTER MOSELEY.

ieut. FRANK JAMES DONAHUE, JR.

ROSTER.

NIOR CLASS.

's, Bellows Falls.

Frank James Donahue,	Proctor.
Ray Storrs Dowe,	Sycamore, Ill.
Philo Remington Hoefler,	Ilion, N. Y.
Walter George Huntley,	Northfield.
Harry Chester Moseley,	Northfield.
Bert Henry Prior,	Underhill.
Michael John Ryan,	Gouldsville.

JUNIOR CLASS.

Arthur Gilbert Andrews,	Northfield.
James Leland Averill,	Northfield.
George Horace Briggs,	Northfield.
Charles Howard Brooks,	Northfield.
William Granville Brooks,	Northfield.
Charles Sargent Carleton,	Cumberland Mills, Me.
Herbert Sawyer Clark,	Northfield.
John Leslie Collins,	Northfield.
Harry Ray Dole,	Northfield.
Phil Sheridan Howes,	Northfield.
Edward Michael McCarty,	Windsor.
Charles Albert Plumley,	Northfield.
Carroll John Scribner,	Stowe.
Leon Anson Skinner,	South Royalton.
Fred Barnes Thomas,	Stowe.
Samuel Adrian Thomas,	Stowe.
Dean Clyde Warren,	Stowe.

SOPHOMORE CLASS.

Louis Phillips Booth,	Northfield.
Winfred Ballard Carr,	Georgia.
Herbert Eugene Caswell,	Georgia.
William Arthur Childs,	Saratoga, N. Y.
Willie Emerson Clogston,	South Royalton.
Henry Vail Dunham,	Northfield.
William Arba Ellis,	Watertown, So. Dakota.
Ransom Augustus Gray,	Waterbury.
Guilford Henry Hill,	East Fairfield.
Harry Lucian Keith,	West Randolph.
Marcellus Edward Nash,	St. Albans.
William Clarence Spafford,	North Bennington.
Charles Ernest Walker,	Cumberland Mills, Me.

FRESHMAN CLASS.

Carter Braxton Bearss,	Peru, Ind.
Hiram Iddings Bearss,	Peru, Ind.
Edwin Booth,	Morrisville.
Roy Atwood Bullock,	Berlin.
Louis Charles Bump,	Brandon.
James Wilber Cook,	Northfield.
Clinton Nathaniel Crapser,	Waddington, N. Y.
Frank Winslow Denison,	Northfield.
Paul Addison Dinsmoor,	Lawrence, Kan.
Charles Edward Duggan,	Northfield.
George Harold Ellis,	Northfield.
George Douglass Evans,	Northfield.
Emory Burlingame Giddings,	Hartford, Conn.
Thomas Bernard Gleason,	Richmond.
Nelson Allen Goodspeed,	St. Albans.
William Henry Haywood,	Brattleboro.
Heman Carpenter Howes,	Northfield.
Joseph Howard Ladd,	Northfield.
Charles Robert Maxwell,	Fayston.
Leonard Joel Parker,	Northfield.
Roland Wellington Reynolds,	South Royalton.
Sanford Benedict Story,	St. Albans.
George Everett Talbot,	Northfield.
Frank Waldo Ward,	Kennebunk, Me.
Frank Edward Watson,	Rockbottom, Mass.
Clarence Dean Wheelock,	Montpelier.
Arthur Ellsworth Winslow,	Berlin.

CALENDAR, 1894,-'95,-'96.

FALL TERM, 1894.

September 20, Thursday:—Entrance Examinations and Registration.
December 17-20:—Term Examinations.
December 20, Thursday:—Term ends.

WINTER TERM, 1895.

Jan'y 3, Thursday:—Entrance Examinations and Registration.
February 22, Friday:—Washington's Birthday.
March 18-21:—Term Examinations.
March 21, Thursday:—Term ends.

SPRING TERM, 1895.

April 4, Thursday :—Entrance Examinations and Registration.
May 10, Friday :—Seniors will present graduation theses.
May 30, Thursday :—Memorial Day.
May 31, Friday :—Senior Examinations.
June 10-15 :—Final Examinations.
June 17 :—Annual Encampment begins.
June 23 :—Baccalaureate Sermon.
June 25, Tuesday :—Sophomore and Freshman Prize Speaking.
June 26, Wednesday :—Annual Meeting of Trustees. Alumni Exercises.
June 27, Thursday :—Annual Commencement.
June 28, Friday :—Entrance Examinations.

FALL TERM, 1895.

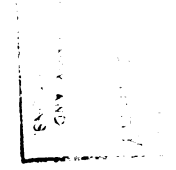
September 19, Thursday :—Entrance Examinations and Registration.
December 16-19 :—Term Examinations.
December 20, Thursday :—Term ends.

WINTER TERM, 1896.

January 2, Thursday :—Entrance Examinations and Registration.
February 22, Saturday :—Washington's Birthday.
March 17-20 :—Term Examinations.
March 20, Thursday :—Term ends.

SPRING TERM, 1896.

April 3, Thursday :—Entrance Examinations and Registration.
May 10, Saturday :—Seniors will present graduation theses.
May 30, Friday :—Memorial Day.
May 31, Saturday :—Senior Examinations.
June 9-14 :—Final Examinations.
June 16 :—Annual Encampment begins.
June 22 :—Baccalaureate Sermon.
June 24, Tuesday :—Sophomore and Freshman Prize Speaking.
June 25, Wednesday :—Annual Meeting of Trustees. Alum-



SIXTY-SECOND

ANNUAL CATALOGUE

OF

NORWICH UNIVERSITY.

MILITARY, SCIENTIFIC AND CLASSICAL.

NORTHFIELD, VT.

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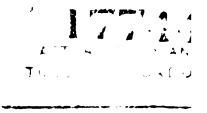

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WILLIAM A. SHAW, S. B.,
Instructor in Meteorology.

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SURGEON.

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CHAPLAIN.

JAMES EVANS,
ARMORER.

REQUIREMENTS FOR ADMISSION.

All candidates for admission to the University must be at least fifteen years of age, and must present satisfactory evidence of good moral character.

TO THE COURSES IN CIVIL AND ELECTRICAL ENGINEERING, CHEMISTRY, AND SCIENCE AND LITERATURE.

Candidates are examined in the following studies:

MATHEMATICS.—Arithmetic; Algebra to Quadratics; Geometry; first four books, Davies' Legendre or an equivalent.

ENGLISH LANGUAGE.—Grammar; Composition, with special attention to punctuation and the use of capitals.

GEOGRAPHY.—Physical and Political Geography.

HISTORY.—History of the United States.

TO THE COURSE IN ARTS.

In addition to the examination in Mathematics, English Language, Geography and History, laid down for the courses in science, examinations are as follows:

LATIN.—Cæsar's "Commentaries," four books, or Sallust's "Cataline"; Virgil's "Æneid," six books; Cicero, four orations.

GREEK.—Xenophon's "Anabasis," four books, or one hundred pages Goodwin's Greek Reader; Homer's "Iliad," two books.

Graduates from approved High Schools are admitted upon certificates.

ADVANCED STANDING.

Candidates for advanced standing must pass satisfactory examinations in the studies already completed by the class which they propose to enter, and in those required for admission. Those, however, from other colleges should bring certificates of honorable dismissal, and marks showing standing. The latter may, on approval by the Faculty, be taken in lieu of

COURSES OF INSTRUCTION.

COURSE IN MILITARY INSTRUCTION.

For all Students throughout the four years. Exercises, Drills or Lectures every day at 4 o'clock P. M.

FALL TERM.

Settings up, Calls, Manual of Arms, School of the Company and Extended Order Drill. Bayonet Exercises in doors in bad weather.

WINTER TERM.

Sabre Drill, Manual of the Sword. Juniors and Seniors, Lectures on Military Engineering or Military Science and Art of War. Recitations in Drill Regulations.

SPRING TERM.

Artillery Drill, Rifle Practice, Battalion Drill, Ceremonies, Signalling, Lectures on Customs of the Service, Camping and Practice Marches, Cavalry Drill.

The Cadets are at all times under military discipline, and strict observance of military customs is required.

Cadets are detailed as Adjutant, Officer of the Day, Guard, etc., in their turn, and are instructed in making out the different kinds of military reports; and are trained in the duties incident to field or garrison.

Military duties and exercises are so arranged as not to occupy the time that would otherwise be devoted to study. They are attended to at those hours which are generally passed by students in idleness, or devoted to useless amusements, for which they are made a pleasant, healthful and profitable substitute. They develop that bearing and those manly arts which always distinguish the soldier, while affording excellent physical training.

Military training prepares a young man's body, as discipline prepares his mind, to meet, with dignity and coolness, the

emergencies sure to arise in his life, whatever his profession may be, and in moments of excitement or danger gives him that firmness and self-control that characterize the gentleman.

Norwich University numbers among its graduates many names which stood high in the profession of arms during the War with Mexico and the War of the Rebellion, and at the present time many of her graduates are serving with distinction as officers of the National Guard and the Regular Army of the United States.

Examinations are held in tactics, orders, duties and customs of military service, to insure familiarity with them.

During the past year four lectures have been delivered on Battles of the Rebellion, by O. O. Howard, Major General U. S. A.

COURSES OF STUDY.

Five regular courses have been established, as follows:—

I. A course in Civil Engineering.
II. A course in Arts.
III. A course in Chemistry.
IV. A course in Science and Literature.
V. A course in Electrical Engineering.

The courses in Civil and Electrical Engineering and Chemistry have a distinctly practical bearing, and give a thorough training for the technical professions.

The course in Science and Literature is intended for such as may not wish to pursue a full course in Mathematics, or one for a distinctly scientific profession, and is designed to furnish a liberal preparation for the professions.

Each of these courses extends through four years, and is intended to give the student a liberal culture.

Changes are made in the course in Chemistry to meet the wants of students preparing for Medicine and Pharmacy.

I. THE COURSE IN CIVIL ENGINEERING.

Leading to the degree of Bachelor of Science in Civil Engineering.

NOTE.—The figures after each subject indicate the number of recitations per week, or its equivalent.

FRESHMAN YEAR.

FALL TERM.—Algebra, 5, French or German, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Free-hand Drawing, 6; English, 1.

WINTER TERM.—Geometry, 5; French or German, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Lettering, 3; Tinting and Shading, 3; English, 1.

SPRING TERM.—Trigonometry, 5; French or German, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Mechanical Drawing, 6; English, 1.

SOPHOMORE YEAR.

FALL TERM.—Analytical Geometry, 5; German or French, 5; Electricity and Magnetism, 5; Descriptive Geometry and Drafting, 10; English, 1.

WINTER TERM.—Differential Calculus, 5; German or French, 5; Mechanics and Heat, 5; Descriptive Geometry and Drafting, 10; English, 1.

SPRING TERM.—Integral Calculus, 3; Land Surveying, Leveling, and Field Work, 6 (text 2, field work 4); German or French, 5; Acoustics and Optics, 5; Detail Drawing, Tracing and Blue Prints, 10; English, 1.

JUNIOR YEAR.

FALL TERM.—Mechanics of Engineering—Statics and Dynamics, 5; Geology, 5; Advanced Surveying—Topographical, Municipal, and Geodetic, 10 (text 4, field work 6); English, [illegible]

WINTER TERM.—Mechanics of Engineering—Materials, 5; Blowpipe Analysis and Determinative Mineralogy, 4; Qualitative Analysis, 6; Colored and Pen Topography, 5; Trusses and Arches, 2; Graphics of Trusses and Arches, 5; English, 1.

SPRING TERM.—Stone Cutting, (text 2, drafting 2); Mechanics of Engineering—Hydraulics, Retaining Walls, Masonry Dams, 3; Botany, 3; Bridge Stresses, (text 3, drafting 4); English, 1.

SENIOR YEAR.

FALL TERM.—Commercial Law, 5; Metallurgy, 2; Bridge Designing, 2; Railroad Engineering (curves turnouts and practical location of railway) 8, (text 2, field work 6); Drawing—Railroad Maps, 4; English, 1.

WINTER TERM.—Constitutional or International Law, 5; Hydraulic and Sanitary Engineering, 5; Civil Engineering—Materials of Engineering, Foundations, Canals, Highways, 5; Drawing—Design of Bridges, 10; English, 1.

SPRING TERM.—Spherical Astronomy—Determination of Time, Latitude, etc., 3; Contracts and Specifications, 2; Political Economy, 5; Highway Engineering, 2; Railroad Engineering, 3; Preparation of Thesis, 5.

II. COURSE IN ARTS.

Leading to the degree of Bachelor of Arts.

FRESHMAN YEAR.

FALL TERM.—Algebra, 5; Memorabilia and Greek Prose, 5; Livy and Latin Prose, 5; Rhetoric, 2; Inorganic Chemistry (text 3, laboratory 2); English 1.

WINTER TERM.—Geometry, 5; Herodotus, 5; Horace—Odes and Epodes, 5; Rhetoric, 2; Inorganic Chemistry (text 3, laboratory 2); Lettering, 3; English, 1.

SPRING TERM.—Trigonometry, 5; Homer's Odyssey, 5; Horace—Satires and Epistles, 5; Rhetoric, 2; English, 1; Inorganic Chemistry (text 3, laboratory 2).

SOPHOMORE YEAR.

FALL TERM.—Sophocles, 3; Juvenal's Satires, 3; Mechanics and Heat, 5; Ancient History, 3; English Literature, 2; English, 1.

WINTER TERM.—Demosthenes, 3; Tacitus, 3; Electricity and Magnetism, 5; English Literature, 2; Mediæval History, 3; English, 1.

SPRING TERM.—Æschylus, 3; Cicero's Select Letters, 3; Acoustics and Optics, 5; English Literature, 2; Modern History, 3; Land Surveying, 6; English, 1.

JUNIOR YEAR.

FALL TERM.—Demosthenes, 2; Pliny, 2; Geology, 5; French or German, 5; Inorganic Chemistry, 5; English Literature, 2; English, 1.

WINTER TERM.—Plato, 2; Plautus, 2; Inorganic Chemistry, 5; French or German, 5; English Literature, 2; State, 5; English, 1.

SPRING TERM.—Greek Syntax, 2; Latin Syntax, 3; French or German, 5; Inorganic Chemistry, 5; English Literature, 2; United States History, 5; English, 1.

SENIOR YEAR.

FALL TERM.—Analytical Chemistry, 10; French or German, 5; Commercial Law, 5; Psychology, 5; English, 1.

WINTER TERM.—French or German, 5; International Law, 5; Constitutional Law, 5; Logic, 5; English, 1.

SPRING TERM.—French or German, 5; Political Economy, 5; Thesis, 5; Astronomy, 3; Ethics, 3.

III. COURSE IN CHEMISTRY.

Leading to the Degree of Bachelor of Science in Chemistry.

FRESHMAN YEAR.

FALL TERM.—Algebra, 5; French, German or Latin, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Free-hand Drawing, 6; English, 1.

WINTER TERM.—Geometry, 5; French, German or Latin, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Lettering, 3; Tinting and Shading, 3; English, 1.

SPRING TERM.—Trigonometry, 5; French, German or Latin, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Mechanical Drawing, 6; English, 1.

SOPHOMORE YEAR.

FALL TERM.—French, German or Latin, 5; Mechanics and Heat, 5; Qualitative Analysis, 15; English, 1.

WINTER TERM.—French, German or Latin, 5; Electricity and Magnetism, 5; Blowpipe Analysis, 10; Qualitative Analysis, 10; English 1.

SPRING TERM.—French, German or Latin, 5; Acoustics and Optics, 5; Qualitative Analysis, 15; Quantitative Rela-

JUNIOR YEAR.

FALL TERM.—Geology, 5; Organic Chemistry, 2; Gravimetric Analysis, 15; Zoölogy, 3; English Literature, 2; English, 1.

WINTER TERM.—Organic Chemistry, 2; Gravimetric Analysis, 20; English Literature, 2; English, 1.

SPRING TERM.—English Literature, 2; Organic Chemistry, 2; Volumetric Analysis 15; Botany, 3; English, 1.

SENIOR YEAR.

FALL TERM.—Commercial Law, 5; Metallurgy, 2; Toxicology, 10; Medical Chemistry, 10; English, 1.

WINTER TERM.—Constitutional Law, 5; International Law, 5; Food Analysis, 20; English, 1.

SPRING TERM.—Political Economy, 5; Water Analysis, 15; Thesis, 5.

IV. COURSE IN SCIENCE AND LITERATURE.

Leading to the Degree of Bachelor of Science.

FRESHMAN YEAR.

FALL TERM.—Algebra, 5; Livy and Latin Prose, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Free-hand Drawing, 6; English, 1.

WINTER TERM.—Geometry, 5; Horace—Odes and Epodes, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Lettering, 3; Tinting and Shading, 3; English, 1.

SPRING TERM.—Trigonometry, 5; Horace—Satires and Epistles, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Mechanical Drawing, 6; English, 1.

SOPHOMORE YEAR.

FALL TERM.—Analytical Geometry, 5; Juvenal's Satires, 3; Mechanics and Heat, 5; Ancient History, 3; English Literature, 2; English, 1.

WINTER TERM.—Tacitus, 3; Electricity and Magnetism, 5; Calculus, 5; Mediæval History, 3; English Literature, 2; English, 1.

SPRING TERM.—Cicero's Select Letters, 3; Acoustics and Optics, 5; Analytical Chemistry, 10; Land Surveying, 6; English Literature, 2; Modern History, 3; English, 1.

JUNIOR YEAR.

FALL TERM.—French or German, 5; Geology, 5; Zoölogy, 3; English History, 5; English Literature, 2; English, 1.

WINTER TERM.—French or German, 5; Analytical Chemistry, 10; Blowpipe Analysis, 4; English Literature, 2; State, 5; English, 1.

SPRING TERM.—French or German, 5; English Literature, 2; United States History, 5; Botany, 3; English, 1

SENIOR YEAR.

FALL TERM.—French or German, 5; Commercial Law, 5; Metallurgy, 2; Psychology, 5; English, 1.

WINTER TERM.—French or German, 5; International Law, 5; Constitutional Law, 5; Logic, 5; English, 1.

SPRING TERM.—French or German, 5; Political Economy, 5, Astronomy, 3; Ethics, 3; Thesis, 5.

V. COURSE IN ELECTRICAL ENGINEERING.

FALL TERM.—Algebra, 5; German or French, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Free-hand Drawing, 6; English, 1.

WINTER TERM.—Geometry, 5; German or French, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Lettering, Tinting and Shading, 6; English, 1.

SPRING TERM.—Trigonometry, 5; German or French, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Mechanical Drafting, 6; English, 1.

SOPHOMORE YEAR.

FALL TERM.—Analytical Geometry, 5; Electricity and Magnetism, 5; Descriptive Geometry and Drafting, 10; Machine Design, 4; Electricity, 5; English, 1.

WINTER TERM. Differential Calculus, 5; Mechanics and Heat, 5; Descriptive Geometry and Drafting, 10; English, 1; Electricity, 5; Machine Design, 4.

SPRING TERM.—Integral Calculus, 5; Acoustics and Optics, 5; Land Surveying, 6 (text 2, field work, 4); Electricity, 5; Machine Design, 4; English, 1.

JUNIOR YEAR.

FALL TERM.—Mechanics of Engineering—Statics and Dynamics, 5; Geology, 5; Elements of Mechanism, 3; Dynamo Electric Machinery, 5; Electrical Measurements, 2; English, 1.

WINTER TERM.—Mechanics of Engineering—Materials of Construction, 5; Theory of Trusses and Arches, 5; Dynamo Electric Machinery, 5; Electrical Laboratory, 4; English, 1.

FALL TERM.—Mechanics of Engineering—Hydraulics, Retaining Walls, Masonry Dams, 3; Bridge Stress, 7; Dynamo Electric Machinery, 5; Electrical Laboratory, 4; English, 1.

SENIOR YEAR.

FALL TERM.—Electric Lighting, Power Transmission and Electric Railways, 5; Alternating Currents and Alternating Current Machinery, 5; Engines and Boilers, 5; Electrical Laboratory, 4; English, 1.

WINTER TERM.—Alternating Currents and Theory of Transformers, 5; Thermodynamics, 3; Engine and Boiler, 5; International or Constitutional Law, 5; Electrical Laboratory, 4; English, 1.

SPRING TERM.—Construction of Electric Plants, 2; Telephony, Telegraphy, Electric Signalling and Photometry, 5; Contracts and Specifications, 2; Electrical Laboratory, 4; Testing of Electric Plants and Thesis, 6; English, 1.

NOTE.—The subject of Meteorology is optional for students in all courses.

Military instruction throughout all courses the same as laid down in the Military Course.

TEXT-BOOKS AND BOOKS OF REFERENCE.

MATHEMATICS.—Astronomy, Young. Algebra, Wells' University. Analytical Geometry, Loomis. Calculus, Taylor. Geometry, Davies' Legendre. Mechanics, Church. Trigonometry, Davies. Descriptive Geometry, Church.

ENGINEERING.—Land Surveying, Johnson. Railroad Surveying, Carhart. Bridge Stresses, Merriman. Civil Engineering, Mahan and Trautwine. Specifications, Johnson. Hydraulic Engineering, Fanning. Sanitary Engineering, Adams. Stereotomy, Mahan. Stresses in Framed Structures, Johnson and Bryan. Wellington's Earth Work Computation. Foundations, Patton. Bridge Designing, Merriman. Hydraulics,

ELECTRICAL.—Thompson's Elementary Lessons in Electricity. Crosby and Bell's Electric Railways. Thompson's Dynamo Electric Machinery. Kapp's Electrical Transmission of Energy. Bedell and Crehore's Alternating Currents. Poole's Practical Telephone Handbook. Pope's Electric Telegraph, etc.

SCIENCES.—Botany, Gray's School and Field Book. Chemistry, Inorganic, Shepard. Chemistry, Analysis, Qualitative, Elliott, Fresenius. Volumetric Analysis, Sutton. Analysis, Quantitative, Fresenius. Organic Industrial Chemistry, Sadtler. Blowpipe, Plympton's Qualitative, Plattner's Qualitative and Quantitative, by Cornwall. Metallurgy and Assaying, Hiorn's Text-Book of Elementary Metallurgy, Hiorn's Practical Metallurgy and Assaying. Agricultural Chemical Analysis, Frankland. Medical Chemistry, Ralfe's Clinical Chemistry. Organic, Remsen. Physics, Gage's Elementary, with lectures on special subjects. Zoölogy, Packard. Geology, Le Conte's Compend. Mineralogy, Dana's Manual, and Foye's Tables. Food Adulteration and its Detection, Battershall.

HISTORY, POLITICAL SCIENCE AND LAW.—History: Ancient, Mediæval and Modern, Myers. English, Montgomery. Political Economy, Walker. Psychology, James. Logic, Davis. Ethics, Muirhead. International Law, Woolsey. Constitutional Law, Cooley. Commercial Law, Townsend. The State, Wilson. Johnston's American Politics.

MODERN LANGUAGES.—French: Whitney's French Grammar; Super's French Reader; French Literature. German: Otis' German Grammar; Joynes' German Reader: German Literature.

ENGLISH.—Rhetoric: Clark's Practical Rhetoric: Genung's Practical Rhetoric. Elocution: Clark's Notes on Reading: Bacon's Manual of Gesture. English Literature, Arnold.

MILITARY SCIENCE.—Drill Regulations for Infantry, Cavalry and Artillery. Burnham's Duties of Guards and Out-

posts. Pettit's Elements of Military Science, Wagner's Security and Information. Batchelor's Fire Discipline. Manual of Field Engineering.

DEGREES.

The candidate for any degree must deposit with the Faculty a satisfactory thesis on some scientific or literary subject connected with his department.

DEGREES OF GRADUATION.

The degree of Bachelor of Science in Civil Engineering is conferred upon any student who has completed the course in Civil Engineering.

The degree of Bachelor of Arts is conferred upon any student who has completed the course in Arts.

The degree of Bachelor of Science in Chemistry is conferred upon any student who has completed the course in Chemistry.

The degree of Bachelor of Science is conferred upon any student who has completed the course in Science and Literature.

The degree of Bachelor of Science in Electrical Engineering is conferred upon any student who has completed the course in Electrical Engineering.

ADVANCED DEGREES.

The Master's degree in Science or Arts is conferred upon graduates of this University of three years' standing who have taken the corresponding Bachelor's degree, and who, during that time, have been engaged in professional, literary or scientific pursuits, or have pursued a course marked out by the

Faculty, for two years after graduation, and have passed the examinations.

The degree of Civil Engineer is conferred upon graduates in Civil Engineering of three years' standing, who have pursued the profession of engineering during that time, have passed the requisite examinations, and have presented a satisfactory thesis; or upon graduates who have completed a post-graduate course.

SUBJECTS AND METHODS OF INSTRUCTION

CIVIL ENGINEERING.

The work of the first year in this department is common to all courses. The thorough training of the eye and hand in Freehand Drawing is of the greatest importance in all subsequent drafting. The course embraces accurate outline drawing, elementary perspective, sketching, object drawing, pencil shading and designing. The effort is made to produce designers, instead of mere copyists. Practice in lettering large and small drawings, general orders, etc., also in tinting and shading with the right line pen, and with brush and water colors, is given in the second term. Neatness of text and rapidity of execution are aimed at. In the third term, dexterity in handling drafting instruments is acquired. Various applications of geometry to drafting, and the orthographic and isometric projections of joints and splices in wood construction are taught. Descriptive Geometry is taught in the fourth and fifth terms, with special reference to its application to shades and shadows, machine construction, stone cutting, and to the design of stone bridges, culverts, spiral stairways, sewer intersections, etc.

The course in bridges begins with the drawing of details, which are measured by students while visiting engineering

structures. Thus, while the student acquires facility in drawing, he becomes familiar with the various details of a bridge. An extended course in Bridge Stresses is given in the ninth term, and in the eleventh term the student is given specifications, and required to apply his theoretical knowledge in designing railway and highway bridges of wood, iron and steel, to the minutest details. In Pen Topography and Colored Topography the students use the conventions for map making, and apply them in the maps platted from the land and railroad surveys.

An extended course in Applied Mathematics, or Mechanics of Engineering is given, in which engineering problems concerning rigid bodies at rest or in motion, the strength of engineering materials, and the statics and dynamics of liquids and gases are practically treated.

The laboratory work of the eighth term and the Metallurgy of the tenth, enable the student to study the materials of engineering with regard to strength and constituents. Under Hydraulic, Sanitary and Civil Engineering, the design and construction of water supply and distribution systems, sewerage systems, and sewage disposal, and of canals, tunnels, foundations in water and on land, and river and harbor improvements, are treated.

Ten hours of drafting per week are required throughout the course, and while the above subjects are being studied, numerous designs of engineering structures are made in the drafting room. In the Reading Room are placed the best of engineering periodicals, which give descriptions of all new works of special interest, and enable the student to keep up with the latest methods of construction.

In Land Surveying and Levelling, practice in using and adjusting instruments is given, and the most approved methods of map making, dividing up and parting off land, and supplying omissions in old surveys are taught, both in classroom and field. The advanced surveying of the seventh term

includes Topographical, Geodetic and City Surveying, with field work and practice in the drawing room.

The Highway engineering of the last term is calculated to teach the student the essential principles of this branch of engineering, which has become so prominent.

In Railroad Surveying the field work consists of preliminary surveying, final location, slope staking, etc. Office work is given in making contour maps of the line, profiles, earthwork calculations, estimates of cost, etc. The lectures on Economic Railway location enable the student to decide between two or more proposed railway lines, and to reduce expenditures in the operation of lines already built.

In the last term, students are required to make specifications and contracts for engineering projects of their own design. The course given in this term in Astronomy provides the engineer with as much of this subject as his profession requires.

EQUIPMENT.—The department has a collection of designs for Free-hand and Perspective Drawing, and for modern houses, cottages, public buildings and architectural details. It has also collections of blue prints of the best modern bridges, including pivot draws, plate girders, and various types of pin-connected and riveted trusses, and blue prints of sewer details and sewer constructions. It has a collection of models of wooden splices and joints used in bridge construction and carpentry, and of details of machine construction.

The department has procured the best modern instruments for angle and line measurement, including transits, compasses, levels, plane table, sextant, rods, chains, etc., and is prepared to give as much of practical engineering field work as can be given in schools, with the first-class instruments now used in modern engineering.

ELECTRICAL ENGINEERING COURSE.

The aim in this course is to fit men to deal with electrical problems likely to be presented to the practical engineer.

The purely electrical work extends over the larger portion of the Junior and Senior years of the course.

In the Sophomore year, Physics and Elementary Electricity are so taught, as to give the student an idea of the theory and practice of simple tests, and measurements are thoroughly covered in the Junior year. The Senior year is nearly all devoted to the more advanced theory and practice of complex tests and measurements.

The Village of Northfield, has a well equipped Electric light power and steam plant, to which the students, during the Senior year, will have access for the purpose of making both engine and electric efficency tests.

MATHEMATICS.

In the department of Mathematics, sufficient attention is paid to practical applications to enable students to see the utility of their studies, and to assist them in the scientific professions.

Theory is developed in as careful and complete a manner as possible, in order that the student may receive that mind discipline which is so valuable an equipment for all pursuits, whether technical or general.

The clearest and most concise text-books are sought for; abstruse and unprofitable discussions are avoided; original work is encouraged, and students are called on for personal recitations more frequently than in most institutions of similar character.

GEOLOGY AND MINERALOGY.

The treatment of Geology consists of text-book work supplemented by frequent excursions in the field, in which the many interesting features of the region are examined. Colored maps, representing the geological formations of counties or large sections, are required. Mineralogy is taken up in connection with Geology, the student being required to identify minerals by their physical properties. In connection

with this work each student is required to make a collection of fifty minerals, which he determines and classifies. To aid him in his work, he is given instruction in Blow-pipe Analysis and Determinative Mineralogy.

HISTORY AND POLITICAL SCIENCE.

The course of History affords a connected and comprehensive view of the history of civilization from the earliest times to the present. By investigating the causes which underlie the world's history, the instruction aims, not only to train the memory and develop the reasoning faculties, but to fit men to deal wisely with those practical, social questions of the present, upon whose solution the experience of the past throws the most valuable light. Particular attention is given to the constitutional development of England and of the United States.

Political Economy is taught in the Senior year by means of text-books, lectures and informal discussions. A theoretical view of the subject is followed by a practical study of Land and Labor Questions, Socialism, Finance, Public Credit, the Principles of Taxation, and Tariffs.

PSYCHOLOGY.

An examination of the different sources of knowledge, an analysis of the various mental states, and a classification of the faculties, are followed by a study of the relation of psychology to education, for the benefit of those students who may desire to engage in teaching. The laws governing the processes of acquiring and reproducing knowledge, the development of the faculties, together with the ways in which they interact one on another, and the play of motives, furnish the foundation of rational instruction and government, and are of special value to the teacher.

LOGIC.

Logic is taught by recitations and informal lectures. The objects of this study are to give the student vigorous mental

discipline, training in exactness, and certainty in thinking, skill in detecting fallacy, and assistance in all the sciences by directing attention to those points of method in each science, which the cultivator is apt to neglect in his zeal for the subject matter of each.

MODERN LANGUAGES.

The chief aim of this department is to enable the student to read French and German with ease and fluency. By this method it is intended, not only to familiarize the ear with the spoken language, and thus to lay the best ground-work for conversation, but also to render easy and intelligible the grammar work, and reading which follow.

After a thorough course in the essentials of grammar, accompanied with composition, and the reading of easy prose, are read various selections of prose and poetry from the best authors.

Much attention is given to the relation of the languages to English and to each other, especially in the matter of derivative and cognate words.

To enrich the student's English vocabulary, to cultivate his taste for good literature, and to broaden his mental horizon, are further objects of the instruction.

RHETORIC, ENGLISH CRITICISM, AND ELOCUTION.

The instruction in this department aims to deal in the most practical way with the composition and delivery of good English. The work, which is uniform in all courses, is continuous throughout the four years.

In Rhetoric, to which subject is devoted two hours each week during the Freshman year, much of the time is spent in the application of the principles of Rhetoric to the correction of faulty sentences. This instruction is supplemented, during the remainder of the course, by lectures on the higher qualities of style, in connection with the essay work. As to punctua-

tion, paragraphing, etc., students are required to present their essays and manuscript orations in proper form for publication.

In English Criticism, while it is sought to eradicate faults of style, especial attention is given to the development of the student's individuality and power of expression. An important feature is the critical examination of English prose masterpieces, which is made in connection with the study of English Literature. Essays and orations are carefully revised, returned to the writers for correction, and afterward read and criticised in class. That the student may learn to study his subject comprehensively, and to arrange its parts logically, instruction is given in the formation of essay outlines.

In Elocution, the chief ends sought are distinct and forcible utterance, just emphasis, and ease and naturalness of expression.

RHETORICALS.

Friday afternoon of each week is devoted by the entire corps of cadets to rhetorical exercises, in which each cadet is required to take part every third week. The exercises are varied; consisting of declamations, essays, orations, debates, presentation and acceptance speeches, etc. Much stress is laid upon the subject of extempore speaking. Each cadet is required to rehearse before a member of the Faculty before appearing at rhetoricals. At the close of each rhetorical session, the members of the Faculty make criticisms and suggestions upon the work done. Occasionally, in place of the regular rhetorical work, the corps organizes itself into a senate or other deliberative body, to gain familiarity with parliamentary law.

Experience has shown that four years of participation in these exercises insures, even to the diffident, that ease and fluency in public speaking which is so important a factor in the various walks of life.

BOTANY.

The course in Botany begins in the spring term of the Junior year, and comprises Vegetable, Morphology and Physiology, Plant Analysis, and the preparation of Herbaria.

The life history of vegetation is traced from seed through stems and roots, leaves, branches, buds, flowers and fruit, to seed again.

Gray's lessons are used, with lectures and field work. The fall term is devoted mainly to Classification and Histology. A few of the more difficult orders of Phænogams are studied. Attention is given to the various kinds of parasitic fungi so destructive to crops.

ZOOLOGY.

Structural Zoölogy is taught by recitations and by laboratory demonstrations. Dissections and drawings are made of representative species in each group of animals. The purpose of this course is to give the student a definite conception, by means of sense-images, of the characteristic structure of the leading modifications of the Animal Kingdom.

PHYSICS.

The treatment of Physics consists of text-book work, with frequent experiments. The work in Mechanics is still further treated under a separate head. Especial attention is given to Electricity and Magnetism, and the student is required to do actual work in wiring, etc., making computation of resistance in telegraph and electric light wires. He is also taught the principles of various electrical machines, and is encouraged to make models. The class is taken to visit electric plants where the principles taught in the class-room are practically

CLASSICS.

It is the aim of the Classical Department to make the work as thorough as possible, and to give the student a general literary culture. A thorough knowledge of grammatical forms is considered necessary, and especial attention is given during the first year to etymology and syntax, vocabulary and idioms. In this manner not only a thorough knowledge of the language is obtained, but the greatest possible amount of mental discipline is derived. The similarity between the Greek and Latin on the one hand, and the English on the other, is pointed out, and especial study is given to roots from which English words are derived. The course is designed to embrace all the leading classes of composition in Greek and Roman literature, and to afford accurate historical knowledge of the Greek and Latin characters and customs. Attention is given to right translation, and care is taken that the student translate into good English, that he may thus improve his knowledge of English in the study of the classics.

CHEMISTRY.

The study of Chemistry is begun by students in all courses, in the Freshman year. It consists during this year, of lectures and recitations upon general Inorganic Chemistry, in which the principles of the science are brought out, and fully explained. Following this is a description of the properties of elements and compounds, and of the methods used for preparing them. To bring this work more clearly before the student, a large number of experiments are performed before the class, in many of which the students are permitted to assist.

In addition to the recitations, two hours a week are devoted to laboratory practice, in which the student performs for himself the experiments given in the section room. The second year's work is intended for those who take the Chemical Course, and consists of daily laboratory practice. The work of this and of the following years, is performed by the students

themselves, under the direction of the professor and his assistant. Qualitative examination of minerals, commercial products, fertilizers, drugs and medicines are made, and as the student becomes more advanced, quantitative examinations of the same substances are made. For those students desiring to fit themselves for the study of Medicine and Pharmacy, special instruction is provided in the Chemical Laboratory.

FINALLY.

It is the aim in all the departments of the University to teach students the practical application of what they study. Mere theories are of little value unless the student can apply them successfully. Too many college graduates have failed in their profession, from being unable to apply theory to practice, and it is this lack which we endeavor to supply in our students.

ACKNOWLEDGEMENTS.

A list of gifts received since the publication of the last Catalogue, and for which acknowledgements are due, is as follows:

DONOR.	GIFT.
Gen. G. M. Dodge, '53	Cash for Special Purposes.
Chas. A. Silver	One Scholarship.
Citizens of Northfield	Cash for Electrical Department.
Capt. G. W. Hobbs	Cash for Endowment.

FOR LIBRARY.

State of Vermont	14 Volumes.
U. S. Government	25 "
Major H. E. Alvord	27 "
Ginn & Co	2 "
Gen. Stephen Thomas	1 Volume.
A Friend	9th Ed. Encyclopedia Britannica.

Capt. J. G. Bourke, U. S. A	3	Pamphlets
F. N. Whitney	1	Volume.
J. B. Johnson	10	Volumes.
H. R. Roberts	1	Volume.
American Book Co	3	Volumes.
Reveille Editors	3	"
Leach, Shewell & Sanborn	13	"
S. S. McClure	3	"
S. G. Abbott	1	Volume.
W. A. Ellis	19	Volumes.
J. H. Graham	1	Volume.
Hon. G. G. Benedict	2	Volumes.
State of Maine	31	"
Rev. E. M. Hayne	1	Volume.
Peter S. Chase	1	"
Gen. Y. W. Ripley	1	"
Wm. Child, M. D	1	"
B. S. Woods	1	"
State of New Hampshire	1	"
Gen. J. P. Cilley	3	Volumes.
Major J. M. Gould	2	"
Hon. E. E. Bryant	1	Volume.
Gen. R. R. Dawes	1	"
Hon. S. R. Bell	1	"
Gen. Russel A. Alger	1	"

The following have contributed periodicals for the Reading Room.

Prof. C. C. Brill.	Prof. H. R. Roberts
Rev. W. S. Hazen.	Rev. L. P. Tucker.
P. R. Hoefler.	W. A. Shaw.
F. N. Whitney.	L. B. Johnson.
C. A. Pierce.	C. N. Davenport.
George Atkins.	Reveille Association.

BRIEF SKETCH OF NORWICH UNIVERSITY.

This institution was founded in 1819, by Capt. Alden Partridge, of whom a cut appears in this Catalogue, and was known as the American Literary, Scientific and Military Academy. It retained the name until November 6, 1834, when a charter of incorporation was granted it by the State of Vermont, under the name of Norwich University.

Thus was founded the *First* Scientific, Classical and Military College in the United States. This new departure met with universal favor, and its halls were soon crowded with young men from every State in the Union.

In March, 1866, the University buildings at Norwich were destroyed by fire, and the University was removed to Northfield, Vt., where the citizens had offered fine grounds and commodious barracks. Here the same system of instruction and military discipline is maintained, and many young men have been enabled to go forth to fill high positions in various professions.

This was the first institution in the country to lay down a purely scientific course of study, and up to the time of the Rebellion, the only one which embraced in its curriculum thorough military, classical and scientific courses. By her work for half a century, Norwich University merits the confidence of the public. Special attention having been given to Military Science and Engineering, her graduates have become particularly distinguished as army officers and civil engineers, having risen to the foremost rank

SCHOLARSHIPS.

Thirty State scholarships, covering tuition in any of the departments, and room rent, are now available.

Young men residing in Vermont, who may be desirous of obtaining a State scholarship, should first apply to the Superintendent of the University for information as to whether a vacancy in their county exists. Learning of a vacancy, application should then be made to the Senators of the applicant's county.

In addition to the above, a number of half-scholarships have been created, by benevolent friends, for the benefit of needy young men who desire to enter the University.

Young men desiring to take advantage of the scholarships hereby offered, should address the SUPERINTENDENT at Northfield.

GENERAL INFORMATION.

EXPENSES.

A prominent feature of the University is the very reasonable charges for instruction, and the low expense of living. The charge is $85 per year for instruction, room rent and incidentals. Students pay for board and laundry at the University Mess Hall, $3.25 per week, which makes the whole expense less than the living expense alone in cities, and at other institutions of learning.

The following table gives a statement of the expenses:

Tuition per college year	$ 65.00
Room rent	15.00
Library and contingent expenses	5.00
Reading room	1.50
Board and laundry, thirty-six weeks	117.00
Total for year	$203.50

Uniform complete, including Regulation Fatigue Suit and Dress Coat, Helmet and Fatigue Cap, $40.00.

The charge for room rent is based upon the supposition that two students occupy the same room. Rooms are unfurnished. Students bring bed linen, blankets and towels. Second hand furniture can be bought at low prices, and sold at a slight reduction.

A room can be furnished at a cost of from $10 upwards, to each occupant.

Rooms are lighted by electricity, and students are charged for the amount used.

Cadets who are appointed buglers receive $50 per year for their services.

Bills are payable strictly in advance.

Students in the course in Chemistry are required to deposit $10 at the beginning of each term of the Sophomore, Junior and Senior years, the amount not consumed being returned at the end of each term.

In the Engineering course in Qualitative Analysis, $3 is charged for chemicals in the second term of the Junior year.

In the other courses a fee of $5 per term is charged for Qualitative Analysis.

A fee of $3 per term is charged for Determinative Mineralogy.

One dollar per term is charged members of the Freshman class taking the laboratory work in connection with the Inor-

These charges are for chemicals, and do not include breakages or waste of materials. The average expense for materials for students in the Chemical course is from $6 to $8 per term.

The Central Vermont Railroad carries students for two cents per mile on certificates, to be obtained through the Superintendent of the University.

For further information, address either the ACTING PRESIDENT, or the SUPERINTENDENT, at Northfield, Vt.

BUREAU OF INFORMATION.

A Bureau of Information has been established by the University. It is intended that this bureau shall serve in assisting graduates in obtaining desirable positions as Teachers, Engineers, Chemists, etc. Those of the Alumni who desire such positions should send their addresses to the Superintendent, that they may receive the benefit of the numerous applications for men, of which the University is constantly in receipt. The value of this feature is attested by the comparatively large number of graduates who, since its establishment, have found lucrative positions without trouble or expense to themselves.

THE REVEILLE.

The Cadets conduct a monthly magazine devoted to the interests of the University, the Alumni, and the Corps itself. Upon this paper excellent drill in journalism is afforded the Cadets.

EXEMPTIONS FOR REVEILLE WORK.

The Editor-in-Chief and Business Manager of the "Reveille" shall be allowed an option between exemption from one-half their rhetorical work, and exemption from five hours' work for one term in a year, or an equivalent.

The other members of the Editorial Staff, viz.: Literary, Personal, Local and Exchange Editors, and the Assistant

Business Manager, shall be allowed the same exemption from rhetoricals or exemption from three hours' work for one term.

Exemptions from studies will be allowed only in the following courses: History, English, Law and Philosophy.

READING ROOM.

A Reading Room is maintained for the Cadets, and is under the direction of a committee of two professors and one Cadet. The Reading Room is provided with the leading literary, political and technical periodicals of the day.

MESS HALL.

The University Mess Hall is a large building, in which several members of the Faculty, with their families reside, and where they, with the corps of Cadets, take their meals.

STUDENTS' SOCIETIES.

Two literary societies exist among the students, in which valuable literary work is done, while at the same time social privileges are enjoyed. These societies are in every way approved by the authorities.

STUDENTS ENTERING

should report upon arrival to the Superintendent, who will give them all necessary instructions as to examinations, etc. The Superintendent will also assign each new student to quarters in Cadet Barracks.

SPRING ENCAMPMENT.

An Encampment of one week is held at the close of Academic work in the spring term, and the Corps receives instructions in all the details of camp life, together with guard duty. While in camp a general review of all the drills is made to insure familiarity with them. During this encampment considerable time is devoted to attack and defence of

EXTENDED MARCHES.

The encampment may be varied by extended marches about the State. During the encampment, and on the march, the Corps is at all times under the command of the Commandant of the University, who is responsible for the conduct of the Cadets.

RELIGIOUS FEATURES.

Prayers are held in the morning before the opening of academic exercises. The following clergymen, who are active resident clergymen of the town, conduct morning exercises: Rev. William S. Hazen, D. D., Rev. George J. Sutherland, A. M., Rev. L. P. Tucker, and Rev. C. E. Downey. On Sunday morning each Cadet is required to attend divine service with some one of the village congregations, the choice being made at the beginning of the term by the Cadet himself, if of age, or otherwise by his parents or guardians, and adhered to throughout the term. The societies of the village are: Congregationalist, Episcopal, Methodist, Roman Catholic and Universalist. While Cadets are held to a strict observance of the rules for religious exercises, and while all immoralities are carefully guarded against, yet the institution is, in every respect, non-sectarian.

PRIZE SPEAKING.

There have been established three prizes of $15, $10 and $5, respectively, to be contested for by those members of the Sophomore and Freshman classes who show the greatest merit in declamation in a contest held during Commencement week. Prize winners in previous contests are debarred from competing.

HONORABLE MENTION.

The student having the highest general average in his class for the year, providing such average be at least 90 per cent..

receives honorable mention at the annual Commencement, and the honor list is printed in the annual Catalogue.

As a stimulus to good work in the class-room, those students, who reach a certain standard of excellence in daily recitations, are not required to take the final examinations at the close of the term.

SENIOR MEDALIST.

The member of the Senior class who graduates with the highest general study average receives the Faculty Gold Medal.

COMMISSIONED OFFICERS.

Upon graduation, Cadet officers receive commissions signed by the President of the University, and by the Adjutant and Inspector-General of the State.

ATHLETICS.

A student is not permitted to take part in any athletic game, either singly or in a team representing the University, with the representatives of any other educational institution outside of Northfield, unless he has been a student in full standing from the beginning of the term in which the game is held, and has a passing standing in studies and deportment.

CONDITIONS.

A student deficient in work up to the end of the winter term of any year, is not ranked with the next class until such work is made up. No Cadet is eligible for a Commencement honor who has not made up all deficiencies before the first Saturday of the spring term of his Senior year. The operation of this rule may be suspended by vote of the Faculty in those rare cases which warrant such action.

ENDOWMENT.

The plan for increased endowment, which has been presented to the friends of the University, has met with a hearty

reception, and a considerable amount has already been subscribed. With the rapid growth of the institution, and the large increase in the number of students, new and greater demands are made upon her. To meet these demands a larger endowment is necessary, and it is earnestly hoped that the Alumni and friends of Norwich University will do their part toward assisting the institution.

NORTHFIELD, VT., June 27, 1889.

A business meeting of the Alumni and Past Cadets of Norwich University was called to order at 4:30 p. m., with President Joseph Stedman in the chair.

Prof. J. B. Johnson of Northfield, was elected to receive subscriptions and donations toward a permanent endowment fund, the income to be used for the current expenses of Norwich University and support of the Faculty, and to be held by him in trust for that purpose only, excepting that, if the University cease to exist, then in trust for the donors.

Further, said Johnson to give good and sufficient bonds for the faithful execution of his trust in a sum not less than $5,000, and with at least two responsible sureties. The bond as drawn and signed to be approved by J. C. B. Thayer, Treasurer of Norwich University.

Moneys and communications concerning endowment may be sent to the Trustee of the Fund, Prof. J. B. Johnson.

MILITARY FEATURE.

Throughout the history of the University, there has been maintained a very high standard of military excellence. From the first it has held the distinction of being the foremost Military institution in the land, with the exception of the National Academy. The following, from Gen. W. T. Sherman's speech before Ransom Post, St. Louis, Mo., will sustain the above statement regarding this University. In speaking of General T. B. Ransom, he says: "He became Principal of Norwich University, *then*, as *since*, an Academy of great

renown. This military school at one time almost rivaled the National Academy of West Point, and there many a man who afterwards became famous in the Mexican and Civil wars first drank in the inspirations of patriotism and learned the lessons of the art of war." The reputation of the New England regiments must be attributed to discipline and instruction received at this institution, as much as to any other single factor; and the "Green Mountain Boys" owe their national reputation and success largely to their training within her halls. Her Honor Roll in the late Civil war contains the names of many generals (among them Generals Dodge, Buel, Seymour, Wright, Ransom), twenty-five colonels, forty field officers, fifty-five captains, one hundred and forty-three lieutenants, and a long list of non-commissioned officers. It has been the highest endeavor of the Trustees and Faculty to maintain in every respect the military reputation of the University. Attention to the course of Military Instruction will give a fair idea of the training given, and a copy of the Rules and Regulations will give a complete statement of the duties required of Cadets.

GENERAL STATEMENT.

Norwich University is distinctively a military institution, but it is in no way reformatory in its nature.

The aim of the institution is to maintain a regular routine of military duty, which affords most valuable training to the young man engaged in study.

While strictly maintaining the military system, the student is allowed every liberty consistent with the system. It is only when wilful infractions of properly constituted authority occur that the impersonal working of the military system exerts its

STANDING, MILITARY CUSTOMS, ETC.

Academic standing depends upon recitations; military standing upon marks of merit and demerit, together with proficiency in military duties. Immoralities, technical and minor offences, are marked with demerits, and are punishable in other ways. Whenever purely academic duties require variation in special matters, the analogies of military usage are maintained, so far as practicable. The students are called cadets, and are under military discipline. The cadet officers are appointed on the basis of military and academic standing. Every cadet is required to wear the uniform of the University when on duty.

UNIFORMS.

A single-breasted dress coat of dark blue cloth, University buttons; trousers dark blue with light red stripe; black cravat; standing collar; U. S. regulation helmet, with usual gilt ornament; forage cap; boots or high shoes of black, unglazed leather. The commandant furnishes accurate directions for the tailor's use, if desired.

Sufficient time is given for students to wear out their citizen's suits before they are required to procure uniforms.

LIBRARY AND COLLECTIONS.

The University library is very well supplied with works of reference, and in addition contains many works of great value which are not to be found in newer libraries. The mineral collection is ample for the purpose of instruction. Manufacturers, dealers in building materials, and others, are requested to send specimens of their products to the Department of Engineering. Specimens in Natural History, Minerals, etc., will be gladly received by the Superintendent. Alumni, Past Cadets, Authors and Publishers are earnestly requested to contribute their publications to the University Library.

RECOGNITION BY STATE AND GENERAL GOVERNMENTS.

The fact that the State of Vermont has recognized Norwich University by making her Corps of Cadets a part of the State Militia and by granting her free scholarships, shows the extent to which the State Government values the institution as a training school for the citizen soldier, and attests her gratitude for services already rendered. For like reasons the United States Government has detailed an active army officer for duty at the University, as Professor of Military Science.

RESIDENT IN BARRACKS.

A member of the Faculty resides in the Barracks with the cadets, thus insuring a strict observance of rules and regula-

ROUTINE OF DUTY.

Reveille, 6.30 A. M.; Police Call and Inspection of Quarters, 7 A. M.; Breakfast, 7.30 A. M., Prayers, 8.45 A. M.; Study and Recitation hours from 9 A. M. until 12 M.; Dinner, 12.15 P. M.

Afternoon Roll Call, 1.35 P. M.; Study and Recitation from 1.45 P. M. until 3.45 P. M.; Drill, 4 P. M. until 5 P. M.; Supper, 5.30 P. M.; Retreat, 7 P. M.; Taps, (Lights out) 10 P. M.

Retreat on Friday, Saturday and Sunday nights at the formation for supper. On Friday and Saturday nights, taps at 10.30 P. M.

SUNDAYS.

Police Call, 7.30 A. M.; Breakfast, 7.50 A. M.; Sunday Morning Inspection, 9.30 A. M.; Church, 10.30 A. M; Dinner, 1.20 P. M.; Supper, 5 P. M.

On Friday nights there is release from quarters until 11 P. M. for Seniors, and until 10.30 P. M. for other Cadets.

On Saturday nights all Cadets are allowed to attend society meetings until 10.30 P. M., without permits.

Permits are granted to Cadets in good standing to go out for social purposes on Saturday or Sunday evening as they may elect.

The foregoing routine is varied during the Spring Term and the Annual Encampment, as circumstances may render best.

The President, with the concurrence of the Faculty, periodically issues a detailed list of calls, and directs such additional roll-calls and makes such changes in the foregoing routine of duty as the discipline of the corps and changes in Academic and Military duty may necessitate.

ASSOCIATE ALUMNI AND PAST CADETS.

By action of the Trustees, the Alumni and Past Cadets are entitled to elect one of the Board of Trustees each year. At a meeting held on Wednesday, June 26, 1889, it was decided that the meetings of the Association shall hereafter be held annually on the day preceeding Commencement, at 10 o'clock in the forenoon.

OFFICERS FOR 1895-'96.

PRESIDENT.

CHARLES DOLE, '69, *Northfield, Vt.*

VICE-PRESIDENTS.

ONE FROM EVERY CLASS REPRESENTED.

SECRETARY AND TRUSTEE ALUMNI ENDOWMENT FUND.

J. B. JOHNSON, '79, *Northfield, Vt.*

TREASURER.

H. C. CADY, '91, *Northfield, Vt.*

COMMITTEE ON INCREASING THE ALUMNI ENDOWMENT FUND.

N. L. SHELDON, '84, *Boston, Mass.*

R. L. IRISH, '89, *Brooklyn, N. Y.*

Members of the Association not present may vote by written ballot at the annual election of Trustees. It is therefore important that each Past Cadet keep the Secretary informed of his full address, and notify him promptly of any change.

BOSTON ALUMNI ASSOCIAT

ANNUAL REUNION IN BOSTON.

OFFICERS FOR 1896.

PRESIDENT.

REV. HOWARD F. HILL, '68.

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SAMUEL H. CROSS, '63.
DEXTER W. LEWIS, '90.

SECRETARY.

N. L. SHELDON, ESQ., '84, *Boston, Niles*

TREASURER.

GEORGE D. THOMAS, '76.

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J. Q. A. MCCOLLESTER, '56.
G. D. THOMAS, '76.
N. L. SHELDON, '84,
J. K. EGERTON, ESQ.
REV. HOWARD F. HILL, '67.

W YORK ALUMNI ASSOCIATION.

ANNUAL REUNION IN NEW YORK CITY.

OFFICERS FOR 1896.

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VICE-PRESIDENTS.

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CLAYTON E. RICH, '63.
WM. R. MEAD, '64.
WILLIAM M. RUMBAUGH, '76.

SECRETARY AND TREASURER.

L. IRISH, '89, *443 Myrtle Ave., Brooklyn, N. Y.*

HONOR LIST, 1895.

VALEDICTORIAN AND SENIOR GOLD MEDALIST.

FRED CARNOT DAVIS.

SALUTATORIAN.

WALTER GEORGE HUNTLEY.

COMMENCEMENT SPEAKERS.

PHILO REMINGTON HOEFLER.
MICHAEL JOHN RYAN.
HARRY CHESTER MOSELEY.

HONORABLE MENTION.

FRED CARNOT DAVIS, '95.
JAMES LELAND AVERILL, '96.
CHARLES ERNEST WALKER, '97.
FRANK WINSLOW DENISON, '98.

WINNERS IN PRIZE SPEAKING.

1st Prize, HENRY VAIL DUNHAM.
2d Prize, WILLIAM CLARENCE SPAFFOR
3d Prize, ARTHUR ELLSWORTH WINSLO

WINNERS IN AUSTIN RIFLE COMPETITION.

1st Prize, ARTHUR GILBERT ANDREWS.
2d Prize, FRANK WINSLOW DENISON.
3d Prize, WINFRED BALLARD CARR.

PRIZE SPEAKERS

CARTER BRAXTON BEARSS.

HERBERT EUGENE CASWELL

FRANK WINSLOW I

HENRY VAIL

CHARL

GEORGE HAROLD ELLIS.

THOMAS BERNARD GLEASON

WILLIAM CLARENCE

ARTHUR ELL

CHARL

BATALLION ORGANIZATION.

HENRY W. HOVEY, 1st Lieut., 24th U. S. Infantry,
Commandant.

CHARLES ALBERT PLUMLEY, Cadet 1st Lieut. and Adjutant.

PHIL SHERIDAN HOWES, Cadet 1st Lieut. and Quartermaster.

HARRY RAY DOLE, Cadet Sergeant Major.

LEON ANSON SKINNER, Cadet Color-Sergeant.

CADET COMPANIES.

"A."

CAPT. JAMES LELAND AVERILL.

1ST LIEUT. ARTHUR GILBERT ANDREWS.

2D LIEUT. HERBERT SAWYER CLARK.

"B."

CAPT. CARROL JOHN SCRIBNER.

1ST LIEUT. CHARLES SARGENT CARLTON.

2D LIEUT. GEORGE HOWARD BRIGGS.

SENIOR CLASS.

Name.	Course.
Arthur Gilbert Andrews,	C. E.....
James Leland Averill,	C. E.....
George Horace Briggs,	C. E.....
Charles Sargent Carleton,	C. E.. *Camb*
Herbert Sawyer Clark,	C. E.....
John Leslie Collins,	C. E.....
Harry Ray Dole,	S. & L.....
Phil Sheridan Howes,	S. & L.....
Edward Michael McCarty,	S. & L.....
Charles Albert Plumley,	A.....
Carroll John Scribner,	C. E.....
Leon Anson Skinner,	Ch.....

SOPHOMORE CLASS.

Name.	Course.	Home Address.
Hiram Iddings Bearss,	S. & L.	*Peru, Ind.*
Edwin Booth,	A.	*Morrisville*
Roy Atwood Bullock,	E. E.	*Berlin*
Louis Charles Bump,	C. E.	*Brandon*
James Wilber Cook,	E. E.	*Northfield*
Clinton Nathaniel Crapser,	Ch.	*Waddington, N. Y.*
Frank Winslow Denison,	C. E.	*Northfield*
Paul Addison Dinsmoor,	Ch.	*Lawrence, Kan.*
Charles Edward Duggan,	E. E.	*Northfield*
George Harold Ellis,	A.	*Northfield*
George Douglass Evans,	E. E.	*Northfield*
Thomas Bernard Gleason,	E. E.	*Richmond*
Nelson Allen Goodspeed,	C. E.	*St. Albans*
Heman Carpenter Howes,	Ch.	*Northfield*
Joseph Howard Ladd,	Ch.	*Northfield*
Charles Robert Maxwell,	S. & L.	*Payston*
Leonard Joel Parker,	E. E.	*Northfield*
Sanford Benedict Story,	Ch.	*St. Albans*
George Everett Talbot,	E. E.	*Northfield*
Frank Waldo Ward,	Ch.	*Kennebunk, Me.*
Arthur Ellsworth Winslow,	C. E.	*Berlin*
Donald William Sutherland,	C. E.	*Drummondville, P. Q.*

JUNIOR CLASS.

Name.	Course.
Winfred Ballard Carr,	C. E.....
Herbert Eugene Caswell,	S. & L.....
Henry Vail Dunham,	Ch.....
William Arba Ellis,	C. E.. *Water*
Guilford Henry Hill,	C. E.....
William Clarence Spafford,	S. & L.....
Charles Ernest Walker,	Ch.. *Cumb*

FRESHMAN CLASS.

Name.	Course.	Home Address.
Frank Leroy Aldrich,	E. E.	*Northfield*
Leon Bernard Allen,	Ch.	*East Roxbury*
George Edmund Austin,	E. E.	*Northfield*
Hezekiah Kibbe Brooks,	C. E.	*St. Albans Bay*
George Carleton Burnham,	C. E.	*St. Johnsbury*
Edward Merrifield Dale,	A.	*Beaufort, S. C.*
Frank Doré Dole,	A.	*Mattoon, Ill.*
Charles Horace Eaton,	C. E.	*Champlain, N. Y.*
Frank Goodell Gibbs,	Ch.	*Burlington*
Chester James Hurlbut,	E. E.	*St. Albans Bay*
Joseph Theron Lance,	S. & L.	*Cabot*
George Prentice Lovell,	C. E.	*Northfield*
John Pool Moseley,	E. E.	*Northfield*
Richard George Rich,	C. E.	*So. Manchester, Conn.*
Robert Burt Swinington,	Ch.	*Leicester Junction*
John Lewis Tupper,	C. E.	*Wallingford*
Forrest Edward Ward,	C. E.	*Kennebunk, Me.*
Fred Aldrich Webster,	E. E.	*Northfield*
Bertram Lathrop West,	E. E.	*Arlington*
Edwin Porter Wilder,	E. E.	*Northfield*

C. E., Civil Engineering; A., Arts; Ch., Chemistry; S. & L., Science and Letters; **E. E., Electrical Engineering.**

September 19, Thursday: — Entrance Examinations and Registration.

December 16–19: — Term Examinations.

December 19, Thursday: — Term ends.

WINTER TERM, 1896.

January 2, Thursday: — Entrance Examinations and Registration.

February 22, Saturday; — Washington's Birthday.

March 16–19: — Term Examinations.

March 19, Thursday: — Term ends.

SPRING TERM, 1896.

April 2, Thursday: — Entrance Examinations and Registration.

May 8, Friday: — Seniors will present graduation theses.

May 30, Saturday: — Memorial Day.

June 1, Monday: — Senior Examinations.

June 8–13: — Annual Encampment.

June 15–20: — Final Examinations.

June 21: — Baccalaureate Sermon.

June 22: — Austin Rifle Competition.

June 23, Tuesday: — Sophomore and Freshman Prize Speaking.

June 24, Wednesday: — Annual Meeting of Trustees. Alumni Exercises.

June 25, Thursday: — Annual Commencement.

June 26, Friday: — Entrance Examinations.

FALL TERM, 1896.

September 24, Thursday: — Entrance Examinations and Registration.

December 21–24: — Term Examinations.

December 24, Thursday: — Term ends.

WINTER TERM, 1897.

January 7, Thursday: — Entrance Examinations and Registration.

February 22, Monday: — Washington's Birthday.

March 22–25: — Term Examinations.

March 25, Thursday: — Term ends.

SPRING TERM, 1897.

April 8, Thursday: — Entrance Examinations and Registration.

May 10, Monday: — Seniors will present graduation theses.

May 30, Sunday: — Memorial Day.

June 1, Tuesday: — Senior Examinations.

June 14–19: — Annual Encampment.

June 21–26: — Final Examinations.

June 27: — Baccalaureate Sermon.

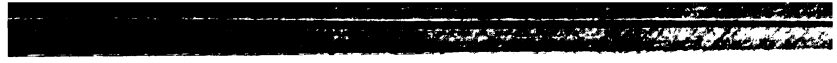
June 28: — Austin Rifle Competition.

June 29, Tuesday: — Sophomore and Freshman Prize Speaking.

June 30, Wednesday: — Annual Meeting of Trustees, Alumni Exercises.

July 1, Thursday — Annual Commencement.

July 2, Friday: — Entrance Examinations.



SIXTY-THIRD

ANNUAL CATALOGUE

OF

NORWICH UNIVERSITY

MILITARY, SCIENTIFIC AND CLASSICAL

NORTHFIELD, VT.

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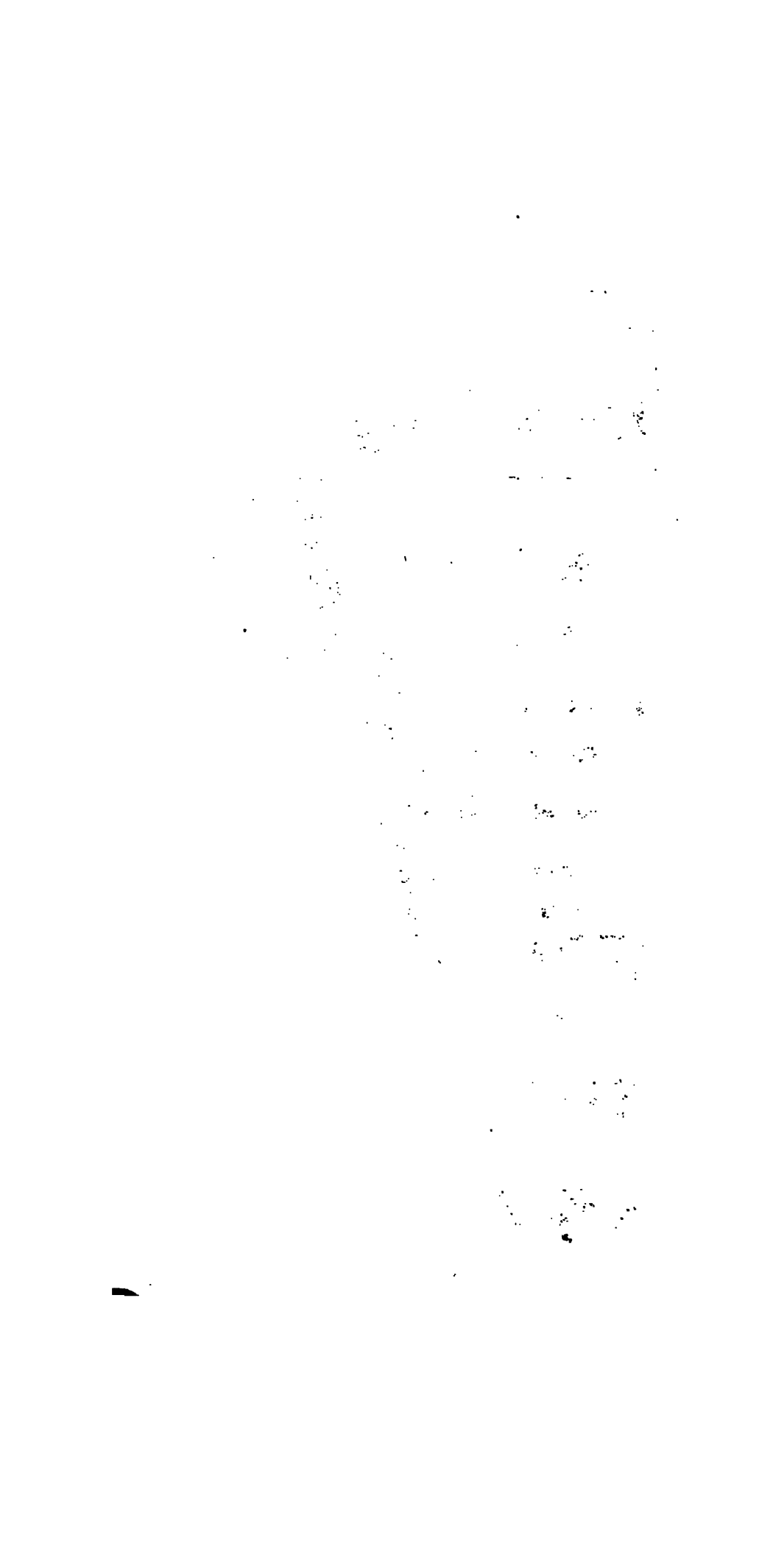

SIXTY-THIRD

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OF

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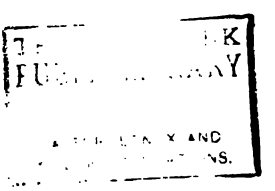

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N. LEWIS SHELDON, A.M., (" " 1900) . . *Boston, Mass.*
GEORGE D. THOMAS, Ph. B., (" " 1901) *Waltham, Mass.*

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PAUL ADDISON DINSMOOR,
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Constitutional and Commercial Law and Social Science.

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WILLIAM A. SHAW, S. M.,
Observer, U. S. Weather Bureau; Meteorology.

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WILLIAM B. MAYO, M. D.,
SURGEON.

THE REV. WILLIAM S. HAZEN, D. D.,
CHAPLAIN.

JAMES EVANS,
ARMORER.

REQUIREMENTS FOR ADMISSION

All candidates for admission to the University must be at least fifteen years of age, and must present satisfactory evidence of good moral character.

TO THE COURSES IN CIVIL AND ELECTRICAL ENGINEERING, CHEMISTRY, AND SCIENCE AND LITERATURE.

Candidates are examined in the following studies:

MATHEMATICS. — Arithmetic; Algebra to Quadratics; Geometry; first four books, Davies' Legendre or an equivalent.

ENGLISH LANGUAGE. — Grammar; Composition, with special attention to punctuation and the use of capitals.

GEOGRAPHY. — Physical and Political Geography.

HISTORY. — History of the United States.

TO THE COURSE IN ARTS.

In addition to the examination in Mathematics, English Language, Geography and History, laid down for the courses in science, examinations are as follows:

LATIN.—Cæsar's "Commentaries," four books, or Sallust's "Cataline"; Virgil's "Æneid," six books; Cicero, four orations.

GREEK. — Xenophon's "Anabasis," four books, or one hundred pages Goodwin's Greek Reader; Homer's "Iliad," two books.

Graduates from approved High Schools are admitted upon certificates.

ADVANCED STANDING.

Candidates for advanced standing must pass satisfactory examinations in the studies already completed by the class which they propose to enter, and in those required for admission. Those, however, from other colleges should bring certificates of honorable dismissal, and marks showing standing. The latter may, on approval by the Faculty, be taken in lieu of examination.

COURSES OF INSTRUCTION.

MILITARY COURSE.

For all Students throughout the four years; Exercises, Drills or Lectures daily.

FALL TERM.

Settings up, Calls, Manual of Arms, School of the Company and Extended Order Drill. Bayonet Exercises in doors in bad weather.

WINTER TERM.

Manual of the Sword. Juniors and Seniors, Lectures on Military Engineering or Military Science and Art of War. Recitations in Drill Regulations.

SPRING TERM.

Artillery Drill, Rifle Practice, Battalion Drill, Ceremonies, Signaling, Lectures on Customs of the Service, Camping.

The Cadets are at all times under military discipline, and strict observance of military customs is required.

Cadets are detailed as Adjutant, Officer of the Day, Guard, etc., in their turn, and are instructed in making out the different kinds of military reports; and are trained in the duties incident to field or garrison.

Military duties and exercises are so arranged as not to occupy the time that would otherwise be devoted to study. They are attended to at those hours which are generally passed by students in idleness, or devoted to useless amusements, for which they are made a pleasant, healthful, profitable substitute. They develop that bearing and those manly arts which always distinguish the soldier, while affording excellent physical training.

Military training prepares a young man's body, as discipline prepares his mind, to meet, with dignity and coolness, the emergencies sure to arise in his life, whatever his profession may be, and in moments of excitement or danger gives him that firmness and self-control that characterize the gentleman.

Norwich University numbers among its graduates many names which stood high in the profession of arms during the War with Mexico and the War of the Rebellion, and at the present time many of her graduates are serving with distinction as officers of the National Guard and the Regular Army of the United States.

Examinations are held in tactics, orders, duties and customs of military service, to insure familiarity with them.

ACADEMIC COURSES.

Five regular courses have been established, as follows:—

I. Civil Engineering.
II. Arts.
III. Chemistry.
IV. Science and Literature.
V. Electrical Engineering.

The courses in Civil and Electrical Engineering and Chemistry have a distinctly practical bearing, and give a thorough training for the technical professions.

The course in Science and Literature is intended for such as may not wish to pursue a full course in Mathematics, or one for a distinctly scientific profession, and is designed to furnish a liberal preparation for the professions.

Each of these courses extends through four years, and is intended to give the student a liberal culture.

Changes are made in the course in Chemistry to meet the wants of students preparing for Medicine and Pharmacy.

I. THE COURSE IN CIVIL ENGINEERING.

Leading to the degree of Bachelor of Science in Civil Engineering.

NOTE.—The figures after each subject indicate the number of recitations per week, or its equivalent.

FRESHMAN YEAR.

FALL TERM.—Algebra, 5; French or German, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric 2; Free-hand Drawing, 6; English, 1.

WINTER TERM.—Geometry, 5; French or German, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Lettering, 3; Tinting and Shading, 3; English, 1.

SPRING TERM.—Trigonometry, 5; French or German, 5; Inorganic Chemistry, 5, (text 3, laboratory 2); Rhetoric, 2; Mechanical Drawing, 6; English, 1.

SOPHOMORE YEAR.

FALL TERM.—Analytical Geometry, 5; German or French, 5; Electricity and Magnetism, 5; Descriptive Geometry and Drafting, 10; English, 1.

WINTER TERM.—Differential Calculus, 5; German or French, 5; Mechanics and Heat, 5; Descriptive Geometry and Drafting, 10; English, 1.

SPRING TERM.—Integral Calculus, 3; Land Surveying, Leveling, and Field Work, 6 (text 2, field work 4); German or French, 5; Acoustics and Optics, 5; Detail Drawing, Tracing, and Blue Prints, 10; English, 1.

JUNIOR YEAR.

FALL TERM.—Mechanics of Engineering.—Statics and Dynamics, 5; Geology, 5; Advanced Surveying—Topographical, Municipal, and Geodetic, 10 (text 4, field work 6); English, 1.

WINTER TERM.—Mechanics of Engineering—Materials, 5; Blowpipe Analysis and Determinative Mineralogy, 4; Qualitative Analysis, 6; Colored and Pen Topography, 5; Trusses and Arches, 2; Graphics of Trusses and Arches, 5; English, 1.

SPRING TERM.—Stone Cutting, (text 2, drafting 2); Mechanics of Engineering—Hydraulics, Retaining Walls, Masonry Dams, 3; Botany, 3; Bridge Stresses, (text 3, drafting 4); English 1.

SENIOR YEAR.

FALL TERM.—Commercial Law, 5; Metallurgy, 2; Bridge Designing, 3; Railroad Engineering (curves turnouts and practical location of railway) 8, (text 2, field work 6); Drawing—Railroad Maps, 4; English, 1.

WINTER TERM.—Constitutional or International Law, 5; Hydraulic and Sanitary Engineering, 5; Civil Engineering—Materials of Engineering, Foundations, Canals, Highways, 5; Drawing—Design of Bridges, 10; English, 1.

SPRING TERM.—Spherical Astronomy—Determination of Time, Latitude, etc., 3; Contracts and Specifications, 2; Political Economy, 5; Highway Engineering, 2; Railroad Engineering, 3; Preparation of Thesis, 5.

II. COURSE IN ARTS.

Leading to the degree of Bachelor of Arts.

FRESHMAN YEAR.

FALL TERM.—Algebra, 5; Memorabilia and Greek Prose, 5; Livy and Latin Prose, 5; Rhetoric, 2; Inorganic Chemistry (text 3, laboratory 2); English, 1.

WINTER TERM.—Geometry, 5; Herodotus, 5; Tacitus—Germania, 5; Rhetoric, 2; Inorganic Chemistry, (text 3, laboratory 2); Lettering, 3; English, 1.

SPRING TERM.—Trigonometry, 5; Homer's Odyssey, 5; Cicero—De Senectute, De Amicitia, 5; Rhetoric, 2; English, 1; Inorganic Chemistry (text 3, laboratory 2.)

SOPHOMORE YEAR.

FALL TERM.—Sophocles, 3; Juvenal's Satires or Ovid, 3; Mechanics and Heat, 5; Ancient History, 3; English Literature, 2; English, 1.

WINTER TERM.—Demosthenes, 3; Horace—Odes and Epodes, 3; Electricity and Magnetism, 5; English Literature, 2; Mediæval History, 3; English, 1.

SPRING TERM.—Æschylus, 3; Horace—Satires and Epistles, 3; Acoustics and Optics, 5; English Literature, 2; Modern History, 3; Land Surveying, 6; English, 1.

JUNIOR YEAR.

FALL TERM.—Demosthenes, 2; Pliny, 2; Geology, 5; French or German, 5; English Literature, 2; English, 1.

WINTER TERM.—Plato, 2; Plautus, 2; French or German, 5; English Literature, 2; State, 5; English, 1.

SPRING TERM.—Greek Syntax, 2; Latin Syntax, 2; French or German, 5; English Literature, 2; United States History, 5; English, 1.

SENIOR YEAR.

FALL TERM.—Analytical Chemistry, 10; French or German, 5; Commercial Law, 5; Psychology, 5; English, 1.

WINTER TERM.— French or German, 5; International Law, 5; Constitutional Law, 5; Logic, 5; English, 1.

SPRING TERM.— French or German, 5; Political Economy, 5; Thesis, 5; Astronomy, 3; Ethics, 3.

III. COURSE IN CHEMISTRY.

Leading to the Degree of Bachelor of Science in Chemistry.

FRESHMAN YEAR.

FALL TERM.— Algebra, 5; French, German or Latin, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Free-hand Drawing, 6; English, 1.

WINTER TERM.— Geometry, 5; French, German or Latin, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Lettering, 3; Tinting and Shading, 3; English, 1.

SPRING TERM.— Trigonometry, 5; French, German or Latin, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Mechanical Drawing, 6; English, 1.

SOPHOMORE YEAR.

FALL TERM.— French, German or Latin, 5; Mechanics and Heat, 5; Qualitative Analysis, 15; English, 1.

WINTER TERM.— French, German or Latin, 5; Electricity and Magnetism, 5; Blowpipe Analysis, 10; Qualitative Analysis, 10; English, 1.

SPRING TERM.— French, German or Latin, 5; Acoustics and Optics, 5; Qualitative Analysis, 15; Quantitative Relations, 5; English, 1.

metric Analysis, 15; Zoology, 3; Engli
English, 1.

WINTER TERM.—Organic Chemistry, Analysis, 20; English Literature, 2; Engli

SPRING TERM.—English Literature, 2; C 2; Volumetric Analysis, 15; Botany, 3; E

SENIOR YEAR.

FALL TERM.—Commercial Law, 5; Met cology, 10; Medical Chemistry, 10; Englis

WINTER TERM.—Constitutional Law, Law, 5; Food Analysis, 20; English, 1.

SPRING TERM.—Political Economy, 5; 15; Thesis, 5.

IV. COURSE IN SCIENCE AND LI

Leading to the Degree of Bachelor of Sci

FRESHMAN YEAR.

FALL TERM.—Algebra, 5; Livy and

SPRING TERM.—Trigonometry, 5; Horace—Satires and Epistles, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Mechanical Drawing, 6; English, 1.

SOPHOMORE YEAR.

FALL TERM.—Analytical Geometry, 5; Juvenal's Satires, 3; Mechanics and Heat, 5; Ancient History, 3; English Literature, 2; English, 1.

WINTER TERM.—Tacitus, 3; Electricity and Magnetism, 5; Calculus, 5; Mediæval History, 3; English Literature, 2; English, 1.

SPRING TERM.—Cicero's Select Letters, 3; Acoustics and Optics, 5; Analytical Chemistry, 10; Land Surveying, 6; English Literature, 2; Modern History, 3; English, 1.

JUNIOR YEAR.

FALL TERM.—French or German, 5; Geology, 5; Zoölogy, 3; English History, 5; English Literature, 2; English, 1.

WINTER TERM.—French or German, 5; Analytical Chemistry, 10; Blowpipe Analysis, 4; English Literature, 2; State, 5; English, 1.

SPRING TERM.—French or German, 5; English Literature, 2; United States History, 5; Botany, 3; English, 1.

SENIOR YEAR.

FALL TERM. French or German, 5; Commercial Law, 5; Metallurgy, 2; Psychology, 5; English, 1.

WINTER TERM.—French or German, 5; International Law, 5; Constitutional Law, 5; Logic, 5; English, 1.

SPRING TERM.—French or German, 5; Political Economy, 5; Astronomy, 3; Ethics, 3; Thesis, 5.

V. COURSE IN ELECTRICAL ENGINEERING.

Leading to the degree of Bachelor of Science in Electrical Engineering.

FRESHMAN YEAR.

FALL TERM.—Algebra, 5; German or French, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Free-hand Drawing, 6; English, 1.

WINTER TERM.—Geometry, 5; German or French, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Lettering, Tinting and Shading, 6; English, 1.

SPRING TERM.—Trigonometry, 5; German or French, 5; Inorganic Chemistry, 5 (text 3, laboratory 2); Rhetoric, 2; Mechanical Drafting, 6; English, 1.

SOPHOMORE YEAR.

FALL TERM.—Analytical Geometry, 5; Electricity and Magnetism, 5; Descriptive Geometry and Drafting, 10; Electrical Chemistry, 5; English, 1.

WINTER TERM.—Differential Calculus, 5; Mechanics and Heat, 5; Descriptive Geometry and Drafting, 10; English, 1; Elementary Electricity, 3; Electrical Measurements, 2.

SPRING TERM.—Integral Calculus, 5; Acoustics and Optics, 5; Land Surveying, 6, (text 2, field work, 4); Elementary Electricity, 5; English, 1; Electrical Measurements, 2; Detail Drafting and Blue Prints, 6.

JUNIOR YEAR.

FALL TERM.—Mechanics of Engineering—Statics and Dynamics, 5; Geology, 5; Elements of Mechanism, 3; Dynamo Electric Machinery, 5; Electrical Laboratory, 4; Machine Drafting, 4; English, 1.

WINTER TERM.—Mechanics of Engineering—Materials of Construction, 5; Theory of Trusses and Arches, 5; Dynamo

Electric Machinery, 5; Electrical Laboratory, 4; Machine Drafting, 4; English, 1.

FALL TERM.—Mechanics of Engineering—Hydraulics, Retaining Walls, Masonry Dams, 3; Bridge Stress, 7; Dynamo Electric Machinery, 5; Electrical Laboratory, 4; Machine Drafting, 4; English, 1.

SENIOR YEAR.

FALL TERM.—Electric Lighting, Power Transmission and Electric Railways, 5; Alternating Currents and Alternating Current Machinery, 5; Engines and Boilers, 5; Electrical Laboratory, 4; English, 1.

WINTER TERM.—Alternating Currents and Theory of Transformers, 5; Thermodynamics, 3; Engine and Boiler, 5; International or Constitutional Law, 5; Electrical Laboratory, 4; English, 1.

SPRING TERM.—Construction of Electric Plants, 2; Telephony, Telegraphy, Electric Signalling and Photometry, 5; Contracts and Specifications, 2; Electrical Laboratory, 4; Testing of Electric Plants and Thesis, 6; English, 1.

Lectures on Meteorology to Seniors of all courses during winter term.

TEXT-BOOKS AND BOOKS OF REFERENCE.

MATHEMATICS.—Astronomy, Young. Algebra, Wells' University. Analytical Geometry, Loomis. Calculus, Taylor. Geometry, Davies' Legendre. Mechanics, Church. Trigonometry, Davies. Descriptive Geometry, Church.

ENGINEERING.—Surveying, Johnson. Railroad Surveying, Carhart. Bridge Stresses, Merriman. Civil Engineering, Patton and Trautwine. Specifications, Johnson. Hydraulic

Engineering, Fanning. Sanitary Engineering, Adams. Stereotomy, Mahan. Stresses in Framed Structures, Johnson and Bryan. Wellington's Earth Work Computation. Foundations, Patton. Bridge Designing, Merriman. Hydraulics, Merriman.

ELECTRICAL.—Sheldon's Elementary Electricity. Crosby and Bell's Electric Railways. Thompson's Dynamo Electric Machinery. Kapp's Electrical Transmission of Energy. Bedell and Crehore's Alternating Currents. Poole's Practical Telephone Handbook. Pope's Electric Telegraph. Slingo's Electrical Engineering, etc.

SCIENCES. — Botany, Gray's School and Field Book. Chemistry, Inorganic, Shepard. Chemistry, Analysis, Qualitative, Elliott, Fresenius. Volumetric Analysis, Sutton. Analysis, Quantitative, Fresenius. Organic Industrial Chemistry, Sadtler. Blowpipe, Plimpton's Qualitative, Plattner's Qualitative and Quantitative, by Cornwall. Metallurgy and Assaying, Hiorn's Text-Book of Elementary Metallurgy, Hiorn's Practical Metallurgy and Assaying. Agricultural Chemical Analysis, Frankland. Medical Chemistry, Ralfe's Clinical Chemistry. Organic, Remsen. Physics, Gage's Elementary, with lectures on special subjects. Zoölogy, Packard. Geology, Le Conte's Compend. Mineralogy, Dana's Manual, and Foye's Tables. Food Adulteration and its Detection, Battershall.

HISTORY, POLITICAL SCIENCE AND LAW.—History: Ancient, Mediæval and Modern, Myers. English, Montgomery. Political Economy, Walker. Psychology, James. Logic, Davis. Ethics, Muirhead. International Law, Woolsey. Constitutional Law, Cooley. Commercial Law, Townshend. The State, Wilson. Johnston's American Politics.

MODERN LANGUAGES.—French: Whitney's French Grammar; Super's French Reader; French Literature. German: Otis' German Grammar; Joynes' German Reader; German Literature.

ENGLISH.—Rhetoric: Clark's Practical Rhetoric; Genung's Practical Rhetoric. Elocution: Clark's Notes on Reading; Bacon's Manual of Gesture. English Literature, Arnold.

MILITARY SCIENCE.—Drill Regulations for Infantry and Artillery. Small Arms Firing Regulations. Wagner's Organization and Tactics. Wagner's Security and Information. Batchelor's Fire Discipline. Winthrop's Military Law. Manual of Field Engineering. Also other books and publications which are found suitable for instruction in military work.

DEGREES.

The candidate for any degree must deposit with the Faculty a satisfactory thesis on some scientific or literary subject connected with his department.

DEGREES OF GRADUATION.

The degree of Bachelor of Science in Civil Engineering is conferred upon any student who has completed the course in Civil Engineering.

The degree of Bachelor of Arts is conferred upon any student who has completed the course in Arts.

The degree of Bachelor of Science in Chemistry is conferred upon any student who has completed the course in Chemistry.

The degree of Bachelor of Science is conferred upon any student who has completed the course in Science and Literature.

The degree of Bachelor of Science in Electrical Engineering is conferred upon any student who has completed the course in Electrical Engineering.

ADVANCED DEGREES.

The Master's degree in Science or Arts is conferred upon graduates of this University of three years' standing, who have taken the corresponding Bachelor's degree, and who, during that time, have been engaged in professional, literary or scientific pursuits, or have pursued a course marked out by the Faculty, for two years after graduation, and have passed the examinations.

The degree of Civil Engineer is conferred upon graduates in Civil Engineering of three years' standing, who have pursued the profession of engineering during that time, have passed the requisite examinations, and have presented a satisfactory thesis; or upon graduates who have completed a post-graduate course.

SUBJECTS AND METHODS OF INSTRUCTION.

CIVIL ENGINEERING.

The work of the first year in this department is common to all courses. The thorough training of the eye and hand in Freehand Drawing is of the greatest importance in all subsequent drafting. The course embraces accurate outline drawing, elementary perspective, sketching, object drawing, pencil shading, and designing. The effort is made to produce designers, instead of mere copyists. Practice in lettering, large and small drawings, general orders, etc., also in tinting and shading with the right line pen, and with brush and water colors, is given in the second term. Neatness of text and rapidity of execution are aimed at. In the third term, dexterity in handling drafting instruments is acquired. Various applications of geometry to drafting, and the orthographic and isometric projections of joints and splices in wood construction are taught. Descriptive Geometry is taught in the

fourth and fifth terms, with special reference to its application to shades and shadows, machine construction, stone cutting, and to the design of stone bridges, culverts, spiral stairways, sewer intersections, etc.

The course in bridges begins with the drawing of details, which are measured by students while visiting engineering structures. Thus, while the student acquires facility in drawing, he becomes familiar with the various details of a bridge. An extended course in Bridge Stresses is given in the ninth term, and in the eleventh term the student is given specifications, and required to apply his theoretical knowledge in designing railway and highway bridges of wood, iron and steel, to the minutest details. In Pen Topography and Colored Topography the students use the conventions for map making, and apply them in the maps platted from the land and railroad surveys.

An extended course in Applied Mathematics or Mechanics of Engineering is given, in which engineering problems concerning rigid bodies at rest or in motion, the strength of engineering materials, and the statics and dynamics of liquids and gases are practically treated.

The laboratory work of the eight term, and the Metallurgy of the tenth, enable the student to study the materials of engineering with regard to strength and constituents. Under Hydraulic, Sanitary and Civil Engineering, the design and construction of water supply and distribution systems, sewerage systems, and sewage disposal, and of canals, tunnels, foundations in water and on land, and river and harbor improvements, are treated.

Ten hours of drafting per week are required throughout the course, and while the above subjects are being studied, numerous designs of engineering structures are made in the drafting room. In the Reading Room are placed the best of engineering periodicals, which give descriptions of all new works of special interest, and enable the student to keep up with the latest methods of construction.

In Land Surveying and Levelling, practice in using and adjusting instruments is given, and the most approved methods of map making, dividing up and parting off land, and supplying omissions in old surveys are taught, both in classroom and field. The advanced surveying of the seventh term includes Topographical, Geodetic and City Surveying, with field work and practice in the drawing room.

The Highway Engineering of the last term is calculated to teach the student the essential principles of this branch of engineering, which has become so prominent.

In Railroad Surveying the field work consists of preliminary surveying, final location, slope staking, etc. Office work is given in making contour maps of the line, profiles, earthwork calculations, estimates of cost, etc. The lectures on Economic Railway Location enables the student to decide between two or more proposed railway lines, and to reduce expenditures in the operation of lines already built.

In the last term, students are required to make specifications and contracts for engineering projects of their own design. The course given in this term in Astronomy provides the engineer with as much of this subject as his profession requires.

EQUIPMENT.— The department has a collection of designs for Free-hand and Perspective Drawing, and for modern houses, cottages, public buildings and architectural details. It has also collections of blue prints of the best modern bridges, including pivot draws, plate girders, and various types of pin-connected and riveted trusses, and the blue prints of sewer details and sewer constructions. It has a collection of models of wooden splices and joints used in bridge construction and carpentry, and of details of machine construction.

The department has procured the best modern instruments for angle and line measurement, including transits, compasses, levels, plane table, sextant, rods, chains, etc., and is prepared to give as much of practical engineering field work as can be given in schools, with the first-class instruments now used in modern engineering.

ELECTRICAL ENGINEERING COURSE.

The aim in this course is to fit men to deal with electrical problems likely to be presented to the practical engineer.

The purely electrical work extends over the larger portion of the Junior and Senior years of the course.

In the Sophomore year, Physics and Elementary Electricity are so taught, as to give the student an idea of the theory and practice of simple tests, and measurements are thoroughly covered in the Junior year. The Senior year is nearly all devoted to the more advanced theory and practice of complex tests and measurements. The department is supplied with an electric plant sufficient for its purposes; and the Village of Northfield has a well equipped plant, to which the students, during the Senior year, will have access for the purpose of making both engine and electric efficiency tests. Two large plants, supplying the cities of Montpelier and Barre, (one of them being the largest water power plant in New England) are also readily accessible.

MATHEMATICS.

In the department of Mathematics, sufficient attention is paid to practical applications to enable students to see the utility of their studies, and to assist them in the scientific professions.

Theory is developed in as careful and complete a manner as possible, in order that the student may receive that mind discipline which is so valuable an equipment for all pursuits, whether technical or general.

The clearest and most concise text-books are sought for; abstruse and unprofitable discussions are avoided; original work is encouraged, and students are called on for personal recitations more frequently than in most institutions of similar character.

GEOLOGY AND MINERALOGY.

The treatment of Geology consists of text-book work supplemented by frequent excursions in the field, in which the many interesting features of the region are examined. Colored maps, representing the geological formations of counties or large sections, are required. Mineralogy is taken up in connection with Geology, the student being required to identify minerals by their physical properties. In connection with this work each student is required to make a collection of fifty minerals, which he determines and classifies. To aid him in his work, he is given instructions in Blow-pipe Analysis and Determinative Mineralogy.

HISTORY AND POLITICAL SCIENCE.

The course of History affords a connected and comprehensive view of the history of civilization from the earliest times to the present. By investigating the causes which underlie the world's history, the instruction aims not only to train the memory and develop the reasoning faculties, but to fit men to deal wisely with those practical social questions of the present, upon whose solution the experience of the past throws the most valuable light. Particular attention is given to the constitutional development of England and of the United States.

Political Economy is taught in the Senior year by means of text-books, lectures and informal discussions. A theoretical view of the subject is followed by a practical study of Land and Labor Questions, Socialism, Finance, Public Credit, the Principles of Taxation, and Tariffs.

PSYCHOLOGY.

An examination of the different sources of knowledge, an analysis of the various mental states, and a classification of the faculties, are followed by a study of the relation of psychology to education, for the benefit of those students who may desire to engage in teaching. The laws governing the processes of

acquiring and reproducing knowledge, the development of the faculties, together with the ways in which they interact one on another, and the play of motives, furnish the foundation of rational instruction and government, and are of special value to the teacher.

LOGIC.

Logic is taught by recitations and informal lectures. The objects of this study are to give the student vigorous mental discipline, training in exactness, and certainty in thinking, skill in detecting fallacy, and assistance in all the sciences by directing attention to those points of method in each science, which the cultivator is apt to neglect in his zeal for the subject matter of each.

MODERN LANGUAGES.

The chief aim of this department is to enable the student to read French and German with ease and fluency. By this method it is intended, not only to familiarize the ear with the spoken language, and thus to lay the best ground-work for conversation, but also to render easy and intelligible the grammar work and reading which follow.

After a thorough course in the essentials of grammar, accompanied with composition, and the reading of easy prose, various selections of prose and poetry from the best authors are read.

Much attention is given to the relation of the languages to English and to each other, especially in the matter of derivative and cognate words.

To enrich the student's English vocabulary, to cultivate his taste for good literature, and to broaden his mental horizon, are further objects of the instruction.

RHETORIC, ENGLISH CRITICISM AND ELOCUTION.

The instruction in this department aims to deal in the most practical way with the composition and delivery of good

English. The work, which is uniform in all courses, is continuous throughout the four years.

In Rhetoric, to which subject is devoted two hours each week during the Freshman year, much of the time is spent in the application of the principles of Rhetoric to the correction of faulty sentences. This instruction is supplemented during the remainder of the course, by lectures on the higher qualities of style, in connection with the essay work. As to punctuation, paragraphing, etc., students are required to present their essays and manuscript orations in proper form for publication.

In English Criticism, while it is sought to eradicate faults of style, especial attention is given to the development of the student's individuality and power of expression. An important feature is the critical examination of English prose masterpieces, which is made in connection with the study of English Literature. Essays and orations are carefully revised, returned to the writers for correction, and afterward read and criticised in class. That the student may learn to study his subject comprehensively, and to arrange its parts logically, instruction is given in the formation of essay outlines.

In Elocution, the chief ends sought are distinct and forcible utterance, just emphasis, and ease and naturalness of expression.

RHETORICALS.

Friday afternoon of each week is devoted by the entire corps of cadets to rhetorical exercises, in which each cadet is required to take part every third week. The exercises are varied; consisting of declamations, essays, orations, debates, presentation and acceptance speeches, etc. Much stress is laid upon the subject of extempore speaking. Each cadet is required to rehearse before a member of the Faculty before appearing at rhetoricals. At the close of each rhetorical session, the members of the Faculty make criticisms and suggestions upon the work done. Occasionally, in place of the

regular rhetorical work, the corps organizes itself into a senate or other deliberative body, to gain familiarity with parliamentary law.

Experience has shown that four years of participation in these exercises insures, even to the diffident, that ease and fluency in public speaking which is so important a factor in the various walks of life.

BOTANY.

The course in Botany begins in the spring term of the Junior year, and comprises Vegetable Morphology and Physiology, Plant Analysis, and the preparation of Herbaria.

The life history of vegetation is traced from seed through stems and roots, leaves, branches, buds, flowers and fruit, to seed again.

Gray's lessons are used, with lectures and field work. The fall term is devoted mainly to Classification and Histology. A few of the more difficult orders of Phænogams are studied. Attention is given to the various kinds of parasitic fungi so destructive to crops.

ZOOLOGY.

Structural Zoölogy is taught by recitations and by laboratory demonstrations. Dissections and drawings are made of representative species in each group of animals. The purpose of this course is to give the student a definite conception, by means of sense-images, of the characteristic structure of the leading modifications of the Animal Kingdom.

PHYSICS.

The treatment of Physics consists of text-book work, with frequent experiments. The work in Mechanics is still further treated under a separate head. Especial attention is given to Electricity and Magnetism, and the student is required to do actual work in wiring, etc., making computation of resistance

It is the aim of the Classical Depa
as thorough as possible, and to gi
literary culture. A thorough kn
forms is considered necessary, and e
during the first year to etymology an
idioms. In this manner not only a
the language is obtained, but the gre
mental discipline is derived. The
Greek and Latin on the one hand,
other, is pointed out, and especial st
which English words are derived.
embrace all the leading classes of c
Roman Literature, and to afford acc
of the Greek and Latin characters a
given to right translation, and care
translate into good English, that h
knowledge of English in the study o

CHEMISTRY

The study of Chemistry is begun
in the Freshman year. It consists du
and recitations upon general Inorga
the principles of the science are
explained. Following this is a desc

In addition to the recitations, two hours a week are devoted to laboratory practice, in which the student performs for himself the experiments given in the section room. The second year's work is intended for those who take the Chemical Course, and consists of daily laboratory practice. The work of this and of the following years, is performed by the students themselves, under the direction of the professor and his assistant. Qualitative examinations of minerals, commercial products, fertilizers, drugs and medicines are made, and as the student becomes more advanced, quantitative examinations of the same substances are made. For those students desiring to fit themselves for the study of Medicine and Pharmacy, special instruction is provided in the Chemical Laboratory.

FINALLY.

It is the aim in all the departments of the University to teach students the practical application of what they study. Mere theories are of little value unless the student can apply them successfully. Too many college graduates have failed in their profession, from being unable to apply theory to practice, and it is this lack which we endeavor to supply in our students. The Hon. Mason S. Stone, Superintendent of Education of the State of Vermont, writes as follows:

"I approve of Norwich University, and its graduates accordingly are entitled to a five years teacher's certificate without examination."

The U.S. Inspecting officer for 1893 said: "Although the numbers are small, it is due the institution to say that in its military system, discipline and instruction it stands at the head of all the colleges in this inspection."

The Inspector for 1896 said: "The appearance, bearing, steadiness and behavior were excellent. * * * I was favorably impressed with the condition of the military department."

The Assistant Inspector General of the Vermont National Guard (an officer of the Army) said in 1896: "These students

are able to execute every movement in infantry drill regulations and, as far as possible without horses, artillery movements, with a correctness and precision not to be expected of any other body of troops in the State."

Brief Sketch of Norwich University.

This institution was founded in 1819, by Captain Alden Partridge, of whom a cut appears in this Catalogue, and was known as the American Literary, Scientific and Military Academy. It retained the name until November 6, 1834, when a charter of incorporation was granted it by the State of Vermont, under the name of Norwich University.

Thus was founded the *First* Scientific, Classical and Military College in the United States. This new departure met with universal favor, and its halls were soon crowded with young men from every State in the Union.

In March, 1866, the University buildings at Norwich were destroyed by fire, and the University was removed to Northfield, Vt., where the citizens had offered fine grounds and commodious barracks. Here the same system of instruction and military discipline is maintained, and many young men have been enabled to go forth to fill high positions in various professions.

This was the first institution in the country to lay down a purely scientific course of study, and up to the time of the Civil War, the only one which embraced in its curriculum thorough military, classical and scientific courses. By her work for half a century Norwich University merits the confidence of the public. Special attention having been given to Military Science and Engineering, her graduates have become particularly distinguished as army officers and civil engineers, some having risen to the foremost rank.

SCHOLARSHIPS.

Thirty State scholarships, covering tuition in any of the departments, and room rent, are now available.

Young men residing in Vermont, who may be desirous of obtaining a State scholarship, should apply first to the PRESIDENT of the University for information as to whether a vacancy exists in their county. Learning of a vacancy, application for appointment should then be made to one of the county Senators.

In addition to the above, a number of half-scholarships have been created by benevolent friends for the benefit of needy young men who desire to enter the University.

Information regarding these scholarships can be obtained on application to the PRESIDENT.

GENERAL INFORMATION.

EXPENSES.

A prominent feature of the University is the very reasonable charges for instruction, and the low expense of living. The charge is $85 per year for instruction, room rent and incidentals. Students pay for board and laundry at the University Mess Hall, $3.25 per week, which makes the whole expense less than the living expense alone in cities, and at other institutions of learning.

The following table gives a statement of the expenses:

Tuition per college year	$ 65.00
Room rent	15.00
Library and contingent expenses	5.00
Reading room	1.50
Board and laundry, thirty-six weeks	117.00
Total for year	$203.50

Uniform complete, $18 to $23.

The charge for room rent is based upon the supposition that two students occupy the same room. Rooms are unfurnished. Students bring bed linen, blankets and towels. Second hand furniture can be bought at low prices, and sold at a slight reduction.

A room can be furnished at a cost of from $10 upwards, to each occupant.

Rooms are lighted by electricity, and students are charged for the amount used.

Cadets who are appointed buglers receive $50 per year for their services.

Bills are payable strictly in advance.

Students in the course in Chemistry are required to deposit $10 at the beginning of each term of the Sophomore, Junior, and Senior years, the amount not consumed being returned at the end of each term.

In the Engineering course in Qualitative Analysis, $3 is charged in the second term of the Junior year. In the other courses a fee of $5 per term is charged for Qualitative Analysis.

A fee of $3 per term is charged for Determinative Mineralogy.

A fee of $1 per term is charged members of the Freshman class taking the laboratory work in connection with Inorganic Chemistry.

These charges are for chemicals, and do not include breakages or waste of materials. The average expense for

materials for students in the Chemical course is from $6 to $8 per term.

The Central Vermont Railroad carries students for two cents per mile on certificates, to be obtained through the President.

BUREAU OF INFORMATION.

A Bureau of Information has been established by the University. It is intended that this bureau shall serve in assisting graduates in obtaining desirable positions as Teachers, Engineers, Chemists, etc. Those of the Alumni who desire such positions should send their addresses to the President, that they may receive the benefit of the numerous applications for men, of which the University is constantly in receipt. The value of this feature is attested by the comparatively large number of graduates who, since its establishment, have found lucrative positions without trouble or expense to themselves.

THE REVEILLE.

The Cadets conduct a monthly magazine devoted to the interests of the University, the Alumni, and the Corps itself. Upon this paper excellent drill in journalism is afforded.

EXEMPTIONS FOR REVEILLE WORK.

The Editor-in-Chief and Business Manager of the "Reveille" are allowed an option between exemption from one-half their rhetorical work, and exemption from five hours' work for one term in a year, or an equivalent.

The other members of the Editorial Staff, viz.: Literary, Personal, Local and Exchange Editors, and the Assistant Business Manager, are allowed the same exemption from rhetoricals or exemption from three hours' work for one term.

Exemptions from studies are allowed only in the following courses: History, English, Law and Philosophy.

READING ROOM.

A Reading Room is maintained for the Cadets, and is under the direction of a committee of two professors and one Cadet. The Reading Room is provided with the leading literary, political and technical periodicals of the day.

MESS HALL.

The University Mess Hall is a large building, in which a member of the Faculty, with his family, resides, and where they, with the corps of Cadets, take their meals.

STUDENTS' SOCIETIES.

Two fraternities, A Σ P and Θ X, exist among the students, (having been founded some forty years ago) in which valuable literary work is done, while at the same time social privileges are enjoyed. These fraternities are in every way approved by the authorities.

STUDENTS ENTERING

should report upon arrival to the President, who will give them all necessary instructions as to examinations, etc.

SPRING ENCAMPMENT.

An Encampment of one week is held at the close of Academic work in the spring term, and the Corps receives instructions in the details of camp life, together with guard duty. While in camp a general review of all the drills is made to insure familiarity with them. During this encampment considerable time is devoted to attack and defence of camp, and to rifle practice.

PRACTICE MARCHES.

The encampment may be varied by practice marches about the State. During the encampment, and on the march, the Corps is at all times under the command of the Commandant, who is responsible for the conduct of the Cadets.

RELIGIOUS FEATURES.

Prayers are held in the morning before the opening of academic exercises, the President officiating. On Sunday morning each Cadet is required to attend divine service with some one of the village congregations, the choice being made at the beginning of the term by the Cadet himself, if of age, or otherwise by his parents or guardians, and adhered to throughout the term. The religious societies of the village are: Congregational, Episcopal, Methodist, Roman Catholic and Universalist. While Cadets are held to a strict observance of the rules for religious exercises, and while all immoralities are carefully guarded against, yet the institution is in every respect non-sectarian.

HONORABLE MENTION.

The student having the highest general average in his class for the year, providing such average be at least 90 per cent., receives honorable mention at the annual Commencement, and the honor list is printed in the annual Catalogue.

As a stimulus to good work in the class-room, those students, who reach a certain standard of excellence in daily recitations, are not required to take the final examinations at the close of the term.

COMPETITIONS.

There have been established three prizes of $15, $10 and $5, respectively, to be contested for by those members of the Sophomore and Freshmen classes who show the greatest merit in declamation in a contest held during Commencement week. Prize winners in previous contests are debarred from competing.

The Austin Trophy, established by Mr. Fred T. Austin, consists of three medals, one of gold and two of bronze, given to the cadets making the highest scores at target practice.

The member of the Senior class who graduates with the highest general study average receives the Faculty Gold Medal.

The Thomas Medal is given by Mr. Geo. D. Thomas to the cadet who has the highest general average: this competition is open to the three senior classes.

A regulation foot officer's sword is given by Lieutenant E. A. Shuttleworth, U.S.A., to the junior who has the highest military standing.

COMMISSIONED OFFICERS.

Upon graduation, Cadet officers receive commissions signed by the President of the University, and by the Adjutant and Inspector-General of the State.

ATHLETICS.

A student is not permitted to take part in any athletic game, either singly or in a team representing the University, with the representatives of any other educational institution outside of Northfield, unless he has been a student in full standing from the beginning of the term in which the game is held, and has a passing standing in studies and deportment. The colors are maroon and gold.

CONDITIONS.

A student deficient in work up to the end of the winter term of any year, is not ranked with the next class until such work is made up. No Cadet is eligible for a Commencement honor who has not made up all deficiencies before the first Saturday of the spring term of his Senior year. The operation of this rule may be suspended by vote of the Faculty in those rare cases which warrant such action.

ENDOWMENT.

The plan for increased endowment, which has been presented to the friends of the University, has met with a hearty

reception, and a considerable amount has already been subscribed. With the growth of the institution, and the increase in the number of students, new and greater demands are made upon her. To meet these demands a larger endowment is necessary, and it is earnestly hoped that the Alumni and friends of the University will do their part toward obtaining it.

MILITARY FEATURE.

Throughout the history of the University, there has been maintained a very high standard of military excellence. From the first it has held the distinction of being the foremost Military institution in the land, with the exception of the National Academy. The following from Gen. W. T. Sherman's speech before Ransom Post, St. Louis, Mo., will sustain the above statement regarding this University. In speaking of Gen. T. B. Ransom, he says: "He became Principal of Norwich University, *then*, as *since*, an Academy of great renown. This military school at one time almost rivaled the National Academy of West Point, and there many a man who afterwards became famous in the Mexican and Civil wars first drank in the inspirations of patriotism, and learned the lessons of the art of war." The reputation of the New England regiments must be attributed to discipline and instruction received at this institution, as much as to any other single factor; and the "Green Mountain Boys" owe their national reputation and success largely to their training within her halls. Her Honor Roll in the late Civil war contains the names of many generals (among them Generals Dodge, G. P. Buell, Truman Seymour, Geo. Wright, H. G. Wright, Seth Williams, Ransom, Lander, Milroy, Terry) forty-five colonels, forty-five field officers, ninety-two captains, seventy lieutenants, and a long list of non-commissioned officers, together with Rear Admirals Paulding and Carpenter, Commodore Dewey, Captains Ward and Colvocoresses and others of the Navy. It has been the highest endeavor of the Trustees and Faculty to maintain in every respect, the military reputation

of the University. Attention to the course of Military Instruction will give a fair idea of the training given, and a copy of the Rules and Regulations will give a complete statement of the duties required of Cadets. Not only are the Cadets examined physically on entrance, but at intervals throughout the course; the examination of the Freshman Class of this year shows an average increase of weight of nearly four pounds, with an average increase of one-half inch in chest expansion, for the fall term.

GENERAL STATEMENT.

Norwich University is distinctively a military institution, its Rules and Regulations being taken from those of the U. S. Military and Naval Academies, so far as applicable; but it is to be noted that it is in no way reformatory in its nature.

The aim of the institution is to maintain a regular routine of military duty, which affords most valuable training to the young man engaged in study.

While strictly maintaining military discipline, the student is allowed every liberty consistent with the circumstances. It is only when willful infractions of properly constituted authority occur, that the impersonal working of the military system exerts its corrective influence.

STANDING, MILITARY CUSTOMS, ETC.

Academic standing depends upon recitations; military standing upon marks of merit and demerit, together with proficiency in military duties; each having equal weight in determining the general standing. Immoralities, technical and minor offences, are marked with demerits and are pun-

ishable in other ways. Whenever purely academic duties require variation in special matters, the analogies of military usage are maintained, so far as practicable. The students are called cadets, and cadet officers are appointed on the basis of military and academic standing. Every cadet is required to wear the uniform of the University when on duty, except that sufficient time is given for students to wear out their citizens suits before they are required to procure uniforms.

UNIFORM.

A blouse of the pattern worn by officers of the U.S. Army; trousers dark blue with light red stripe; black cravat; standing collar; U.S. regulation forage cap; boots or high shoes of black leather. The commandant furnishes accurate directions for the tailor's use, if desired.

LIBRARY AND COLLECTIONS.

The University library is very well supplied with works of reference, and in addition contains many works of great value which are not to be found in newer libraries. The mineral collection is ample for the purpose of instruction. Manufacturers, dealers in building materials, and others, are requested to send specimens of their products to the Department of Engineering. Specimens in Natural History, Minerals, etc., will be gladly received. Alumni, Past Cadets, Authors and Publishers are earnestly requested to contribute their publications to the University Library.

RECOGNITION BY STATE AND GENERAL GOVERNMENTS.

The State of Vermont has recognized Norwich University by making her Corps of Cadets a part of the State National Guard, in which each member is regularly enlisted. By this, and by granting her free scholarships, the State Government places a high valuation upon the institution as a training school for the citizen soldier, and attests her gratitude for

services already rendered. For like reasons, the United States Government has detailed an officer from the active list of the Army for duty at the University, as Professor of Military Science and Tactics, and sends an inspecting officer yearly, to note the condition of the discipline and drill.

RESIDENT IN BARRACKS.

A member of the Faculty resides in the Barracks with the cadets, thus insuring a strict observance of Rules and Regulations.

LOCATION.

Northfield, being located on the main line of the Central Vermont Railroad is easy of access from all directions, and students are given reduced rates upon application. Telegraphic communication can be had directly with the University Barracks, through the Western Union Company. There is probably no State that can boast of a more healthful climate than Vermont. Northfield is in the central part of the State, and is ten miles from the Capital, Montpelier. A popular resort in summer, it loses none of its healthfulness in winter. The water is pure and clear, and the University and village are well supplied from mountain springs.

ROUTINE OF DUTY.

Reveille; Police Call and Inspection of Quarters; Breakfast; Drill; Prayers; Study and Recitation hours; Dinner; Afternoon Roll Call; Study and Recitation; Supper; Retreat; Taps (Lights out) 10 p.m.

Retreat on Friday, Saturday and Sunday nights at the formation for supper. On Friday and Saturday nights, taps at 10.30 p.m.

SUNDAYS.

Police Call; Breakfast; Sunday Morning Inspection; Dinner; Supper.

On Friday nights there is release from quarters until 11 p. m. for Seniors, and until 10.30 p.m. for other Cadets; and on Saturday nights the same privileges are granted for attendance at fraternity meetings.

Additional evening privileges are granted to Cadets who earn them by good conduct.

The foregoing routine is varied as circumstances may require.

The President, with the concurrence of the Faculty, periodically issues a detailed list of calls, directs such roll-calls and makes such alterations in the routine as the discipline of the corps and changes in Academic and Military duty may demand.

Associate Alumni and Past Cadets.

By action of the Trustees, the Alumni and Past Cadets are entitled to elect one of the Board of Trustees each year. At a meeting held on Wednesday, June 26, 1889, it was decided that the meetings of the Association shall hereafter be held annually on the day preceding Commencement, at 10 o'clock in the forenoon.

Officers for 1896-97.

PRESIDENT,

Charles Dole, '69, *Northfield, Vt.*

VICE-PRESIDENTS,

One from Every Class Represented.

SECRETARY AND TRUSTEE ALUMNI ENDOWMENT FUND,

J. B. Johnson, '79, *Northfield, Vt.*

TREASURER,

H. C. Cady, '91, *Northfield, Vt.*

COMMITTEE ON INCREASING THE ALUMNI ENDOWMENT FUND,

N. L. Sheldon, '84, *Boston, Mass.*
R. L. Irish, '89, *Brooklyn, N. Y.*

Members of the Association not present may vote by written ballot at the annual election of Trustees. It is therefore important that each Past Cadet keep the Secretary informed of his full address, and notify him promptly of any change.

'ON ALUMNI ASSOCIATION.

ANNUAL REUNION IN BOSTON.

OFFICERS FOR 1897.

PRESIDENT,

THE REV. HOWARD F. HILL, '68.

VICE-PRESIDENTS,

ROBERT B. EATON, '40,
SAMUEL H. CROSS, '63,
DEXTER W. LEWIS, '90.

SECRETARY,

SHELDON, '84, *Boston, Niles Building.*

TREASURER,

GEORGE D. THOMAS, '76.

ENDOWMENT FUND COMMITTEE,

J. Q. A. MCCOLLESTER, '56,
G. D. THOMAS, '76,
N. D. SHELDON, '84,
J. K. EGERTON, '84,
HOWARD F. HILL, '68.

NEW YORK ALUMNI ASS

ANNUAL REUNION IN NEW YOR

OFFICERS FOR 189

PRESIDENT,

GRENVILLE M. DODGE, '5

VICE-PRESIDENTS,

CYRUS H. FAY, '37.
CLAYTON E. RICH, '63
WM. R. MEAD, '64.
WILLIAM M. RUMBAUC

SECRETARY AND TREASURER

ROBERT L. IRISH, '89, *443 Myrtle Avenu*

HONOR LIST 1896.

VALEDICTORIAN AND SENIOR GOLD MEDALIST,

JAMES LELAND AVERILL.

SALUTATORIAN,

PHIL SHERIDAN HOWES.

COMMENCEMENT SPEAKERS,

CHARLES ALBERT PLUMLEY.

ARTHUR GILBERT ANDREWS.

CARROLL JOHN SCRIBNER.

CHARLES SARGENT CARLETON.

HONORABLE MENTION,

JAMES LELAND AVERILL, '96.

WINFRED BALLARD CARR, '97.

FRANK WINSLOW DENISON, '98.

LEON BERNARD ALLEN, '99.

WINNERS IN PRIZE SPEAKING,

1st Prize, JOHN LEWIS TUPPER.

2d Prize, JOHN POOL MOSELEY.

3d Prize, GEORGE PRENTICE LOVELL.

WINNERS IN AUSTIN RIFLE COMPETITION,

1st Prize, NELSON ALLEN GOODSPEED.

2d Prize, LEONARD JOEL PARKER.

PRIZE SPEAKERS, 1896.

LEON ALLEN.

EDWIN BOOTH.

FRANK WINSLOW DENISON.

CHARLES EDWARD DUGGAN.

THOMAS BERNARD GLEASON.

JOSEPH LADD.

GEORGE PRENTICE LOVELL.

JOHN POOL MOSELEY.

JOHN LEWIS TUPPER.

FRED ALDRICH WEBSTER.

BATALLION ORGANIZATION.

HENRY W. HOVEY, 1st Lieut. 24th U.S. Infantry,
Commandant.

HENRY VAIL DUNHAM, Cadet 1st Lieut and Adjutant.

WILLIAM ARBA ELLIS, Cadet 1st Lieut. and Quartermaster.

EDWIN BOOTH, Cadet Sergeant-Major.

CADET COMPANIES.

"A."

CAPT. CHARLES ERNEST WALKER.

1ST LIEUT. WILLIAM CLARENCE SPAFFORD.

2D LIEUT. FRANK WINSLOW DENISON.

"B."

CAPT. WINFRED BALLARD CARR.

1ST LIEUT. GUILFORD HENRY HILL.

ROSTER.

SENIOR CLASS.

Name.	Course.	Home Address.
Winfred Ballard Carr,	C. E	*Georgia*
Henry Vail Dunham,	Ch	*Northfield*
William Arba Ellis,	C. E.	*Watertown, So. Dakota*
Guilford Henry Hill,	C. E	*East Fairfield*
William Clarence Spafford,	S. & L	*North Bennington*
Charles Ernest Walker,	Ch.	*Cumberland Mills, Me.*

JUNIOR CLASS.

Name.	Course.	Home Address.
Edwin Booth,	A	*Morrisville*
Louis Charles Bump,	C. E	*Brandon*
James Wilber Cook,	C. E	*Northfield*
Frank Winslow Denison,	C. E	*Northfield*
Paul Addison Dinsmoor,	Ch	*Lawrence, Kan.*
Charles Edward Duggan,	C. E	*Northfield*
George Harold Ellis,	A	*Northfield*
George Douglass Evans,	C. E	*Northfield*
Thomas Bernard Gleason,	C. E	*Richmond*
Charles Robert Maxwell,	S. & L	*Fayston*
Leonard Joel Parker,	C. E	*Northfield*
Donald William Sutherland,	C. E.	*Drummondville, P. Q.*
George Everett Talbot,	C. E	*Northfield*
Arthur Ellsworth Winslow,	C. E	*Berlin*

SOPHOMORE CLASS.

Name.	Course.	Home Address.
Frank Leroy Aldrich,	E. E.	*Northfield*
Hezekiah Kibbe Brooks,	C. E.	*St. Albans Bay*
George Carleton Burnham,	C. E.	*St. Johnsbury*
Charles Horace Eaton,	C. E.	*Champlain, N. Y.*
Frank Goodell Gibbs,	Ch.	*Burlington*
Chester James Hurlbut,	E. E.	*St Albans Bay*
George Prentice Lovell,	C. E.	*Northfield*
John Pool Moseley,	E. E.	*Northfield*
Richard George Rich,	C. E.	*So. Manchester, Conn.*
John Lewis Tupper,	C. E.	*Wallingford*
Fred Aldrich Webster,	E. E.	*Northfield*
Bertram Lathrop West,	E. E.	*Arlington*

FRESHMAN CLASS.

Name.	Course.	Home Address.
Bert Frank Allen,	C. E.	*East Roxbury*
Sanford Harris Ashley,	C. E.	*Milton*
Charles Batchelder,	C. E.	*Hartford*
John Spaulding Batchelder,	S. & L.	*Chester*
Leon Frank Booth,	S. & L.	*Morrisville*
Louis Franklin Chamberlain,	E.	*Newbury*
David Inness Coolidge,	Ch.	*Chicago, Ill.*
Norris Mead Davis,	S. & L.	*Chester*
William Driscoll,	C. E.	*Greenfield, N. H.*
Ralph Wales Dunsmoor,	C. E.	*Northfield*
George William Gilson,	E.	*Bethel*
William Ernest Lancaster,	C. E.	*Salem, N. H.*
Joseph Theron Lance,	S. & L.	*Cabot*
Arthur Charles Patterson,	C. E.	*Putney*
Mark Leonard Poor,	Ch.	*Stowe*
Harold Samuel Richmond,	C. E.	*Northfield*
Benton William Sibley,	C. E.	*Milton*
Albert Stern,	Ch.	*Lyndonville*
Frederick Fullerton Wiley,	S. & L.	*Chester*

C. E., Civil Engineering; A., Arts; Ch., Chemistry; S. & L., Science and Letters; E. E., Electrical Engineering.

CALENDAR, 1896-'97-'98.

FALL TERM, 1896.

September 24, Thursday:—Entrance Examinations and Registration.
December 21–24:—Term Examinations.
December 24, Thursday:—Term ends.

WINTER TERM, 1897.

January 7, Thursday:—Entrance Examinations and Registration.
February 22, Monday:—Washington's Birthday.
March 22–25:—Term Examinations.
March 25, Thursday:—Term ends.

SPRING TERM, 1897.

April 8, Thursday:—Entrance Examinations and Registration.
May 10, Monday:—Seniors will present graduation theses.
May 30, Sunday:—Memorial Day.
June 1, Tuesday:—Senior Examinations.
June 14–19:—Annual Encampment.
June 21–26:—Final Examinations.
June 27:—Baccalaureate Sermon.
June 28:—Austin Rifle Competition.
June 29, Tuesday:—Sophomore and Freshman Prize Speaking.
June 30, Wednesday:—Annual Meeting of Trustees, Alumni Exercises.
July 1, Thursday:—Annual Commencement.
July 2, Friday:—Entrance Examinations.

FALL TERM, 1897.

September 23, Thursday:—Entrance Examinations and Registration.
December 20–23:—Term Examinations.
December 23, Thursday:—Term ends.

WINTER TERM, 1898.

January 6, Thursday:—Entrance Examinations and Registration.
February 22, Tuesday:—Washington's Birthday.
March 21–24:—Term Examinations.
March 24, Thursday:—Term ends.

SPRING TERM, 1898.

April 7, Thursday:—Entrance Examinations and Registration.
May 9, Monday:—Seniors will present graduation theses.
May 30, Monday:—Memorial Day.
June 1, Wednesday:—Senior Examinations.
June 13–18:—Annual Encampment.
June 20–25:—Final Examinations.
June 26:—Baccalaureate Sermon.
June 27:—Austin Rifle Competition.
June 28, Tuesday:—Sophomore and Freshman Prize Speaking.
June 29, Wednesday:—Annual Meeting of Trustees, Alumni Exercises.
June 30, Thursday:—Annual Commencement.
July 1, Friday:—Entrance Examinations.

RECENT GRADUATES.

1890.

C. F. PARKER, Civil Engineer, Thompson & Co., Revere, Mass.

C. E. COLLINS, City Engineer, St. Albans, Vt.

S. B. ADAMS, Boiler Inspector, Boston, Mass.

D. W. LEWIS, Clerk, Boston and Maine Railway.

HERMAN DRESSEL JR., Prin. High School, Springfield, Vt.

H. J. DANE, Pharmacist, Northfield, Vt.

I. R. MOWER, Representing Parke, Davis & Co., in Chicago, Ill.

J. H. JUDKINS, Physician, Northfield, Vt.

1891.

GEORGE FRANKLIN ABBOTT, Civil Engineer, West End Street Railway, Boston.

THE REV. ALFRED FREDERICK BOOTH, St. Albans, Vt.

EDWARD AIKEN SHUTTLEWORTH, 2d Lieut. 11th Inft., U.S.A.

WILLIAM HIBBARD SPRAGUE, Merchant, East Brookfield, Vt.

HARRY GORDON WOODRUFF, Collection Clerk, Amoskeag National Bank, Manchester, N. H.

ETHAN ALLEN SHAW, Principal Graded School, Newbury, Vt.

CARL GILMAN DOLE, B. & M. R. R., Woodsville, N. H.

HEBER CALVIN CADY, Assistant Cashier, Northfield Savings Bank.

BURTON WILEY FARNHAM, Civil Engineer in City Engineer's Office, Lowell, Mass.

FRED MINER GOODHUE, Lowell, Mass.

PERCY GATES SMITH, City Engineer's Office, Worcester, Mass.

CLARENCE BONNETT RIGGS, Civil Engineer, Middlebury, Vt.

1892.

E. W. CLARK, Civil Engineer, West End Street Railway, Boston, Mass.

J. S. CRAIGUE, Civil Engineer, Boston, Mass.

C. J. C. EVANS, Civil Engineer, Woonsocket, R.I.

C. W. PIERCE, Associate Editor of the Bennington *Banner*.

R. H. FORD, Civil Engineer, Central Vermont Railroad.

E. H. RYAN, Civil Engineer, Denver, Col.

D. C. WEBB, Civil Engineer, Boston, Mass.

B. W. GLEASON, Real Estate Agency, Boston, Mass.

1893.

G. L. ANDREWS, Pharmacist, Newbury, Vt.

E. C. BENNETT, with B. & R. R.R., No. Bennington, Vt.

E. W. GAYNOR, Dental College, Baltimore, Md.

F. A. GOKEY, in business at Everett, Mass.

F. D. HOLBROOK, Civil Engineer, Boston, Mass.

W. E. HURLBUT, Law Student, Ann Arbor, Mich.

F. A. MANUEL, Manufacturer, Richford, Vt.

H. N. MATTISON, Cashier National Bank, Chelsea, Vt.

O. L. PEASE, Pharmacist, Hartford, Ct.

1894.

L. B. CLOGSTON, Draftsman, Jamaica Plain, Mass.

E. W. GIBSON, Principal of Chester, Vt., Graded School.

H. L. HINMAN, in business at Coös, N. H.

H. C. HOLDEN, Civil Engineer, with Thompson & Co., Revere, Mass.

L. C. HULBURD, Topographical Engineer, New York City.

J. E. ROSS, Topographical Engineer, New York City.

R. U. SMITH, Law Student, Wells River, Vt.

* G. E. STORRS, Principal of Whitcomb High School, Bethel, Vt.

H. H. STEARNS, Topographical Engineer, Winthrop, N.Y.

H. B. WASSON, Civil Engineer, with Massachusetts Highway Commission.

1895.

EDGAR FLETCHER CARRUTHERS, Paper Mill, Brattleboro, Vt.

CHARLES HORACE DAVIS, Engineer, St. R. R. Co., Leicester, Mass.

FRED CARNOT DAVIS, —— Randolph, Vt.

* Deceased.

FRANK JAMES DONAHUE, Civil Engineer, Cambridge, Mass.

RAY STORRS DOWE, Railway Mail Service.

WALTER GEORGE HUNTLEY, Dental College, Baltimore, Md.

PHILO REMINGTON HOEFLER, Institute Technology, Boston.

HARRY CHESTER MOSELEY, Electrical Engineer, Boston.

BERT HENRY PRIOR, City Engineer's Office, Worcester, Mass.

MICHAEL JOHN RYAN, City Engineer's Office, Cambridge, Mass.

FRED BARNES THOMAS, Law Student, Montpelier.

SAMUEL ADRIAN THOMAS, Civil Engineer, New York City.

DEAN CLYDE WARREN, City Engineer's Office, Cambridge, Mass.

1896.

ARTHUR GILBERT ANDREWS, Law Student, Ann Arbor, Mich.

JAMES LELAND AVERILL, Thayer School, Dartmouth, N.H.

GEORGE HORACE BRIGGS, Northfield.

CHARLES SARGENT CARLETON, Paper Mill, Cumberland Mills, Me.

HERBERT SAWYER CLARK, Northfield.

JOHN LESLIE COLLINS, City Engineer's Office, Cambridge, Mass.

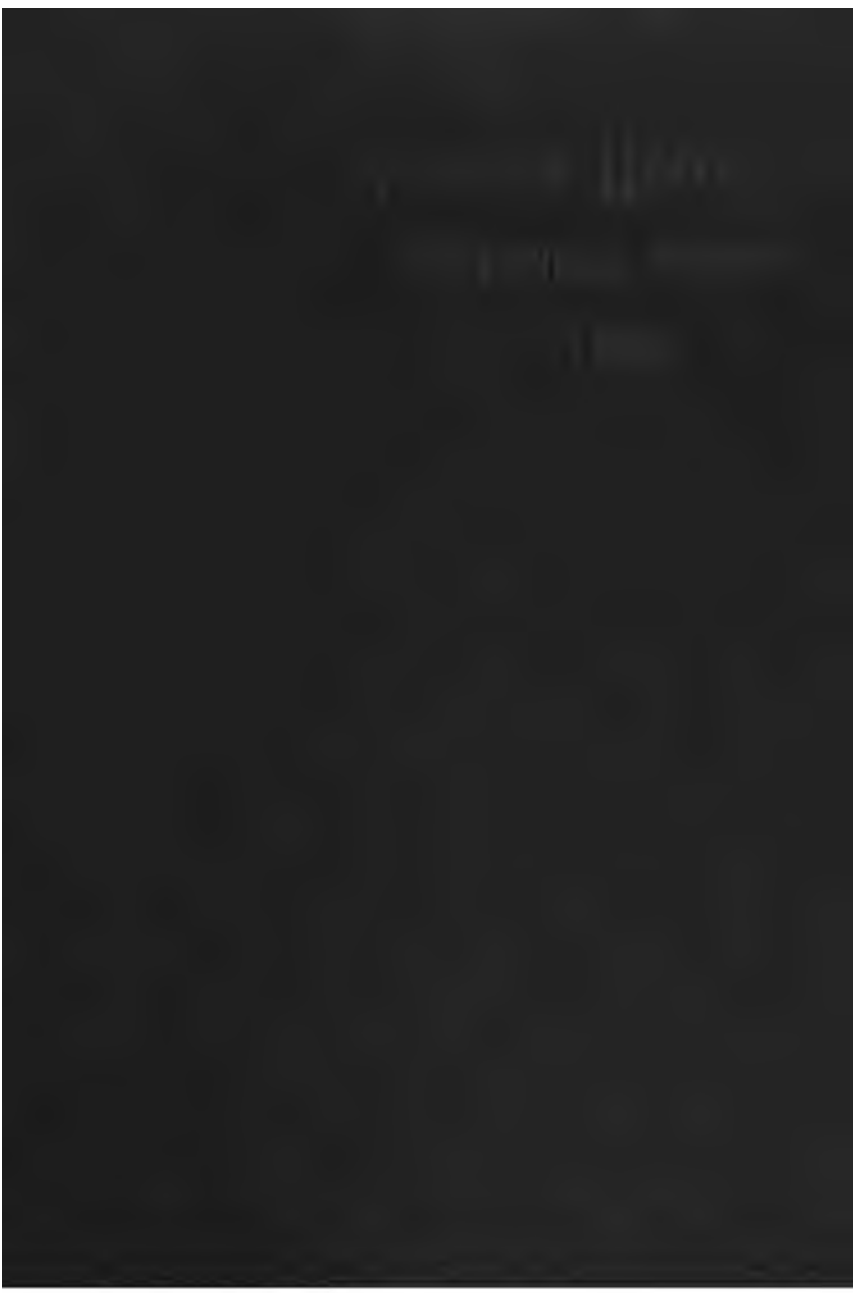
HARRY RAY DOLE, Instructor, N. U.

PHIL SHERIDAN HOWES, School Teacher, Northfield.

EDWARD MICHAEL MCCARTY, Windsor.

CHARLES ALBERT PLUMLEY, Principal High School,

N. B.—For graduates before 1890, see Alumni



SIXTY-FOURTH

UAL CATALOGUE

OF

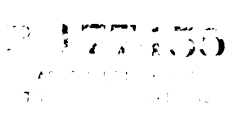
ICH UNIVERSITY,

ARY, SCIENTIFIC AND CLASSICAL.

NORTHFIELD, VT.

VENTY-NINTH ACADEMIC YEAR.

ST. ALBANS MESSENGER CO. PRINT.
1897.



CORPORATION.

President,
THE PRESIDENT OF THE UNIVERSITY.

Vice-President.
CHARLES DOLE, A M.

Secretary,
JOHN H. JUDKINS, B. L., M. D.

Treasurer,
HEBER C. CADY, C. E.

Col. Fred E. Smith.....
William B. Mayo, M. D.....
Hon. Frank Plumley, A. M.....
Joseph Stedman, M. D., A. M.....*Jama*
Mr. Joseph K. Egerton.....
Mr. Chauncey Denny.....
John J. Dewey, B. S.....
Mr. Thomas J. Boynton.....
Capt. Frank L. Howe, V. N. G.....
The Rev. William S. Hazen, D. D.....
Gen. Oliver O. Howard, U. S. A.....
The Rev. Isaac P. Booth, D. D.....
The Rev. Charles W. Emerson, LL. D..
J. Q. A. McCollester, M. D., LL. D.....
Mr. Henry V. Partridge.....
The Rev. Howard F. Hill, Ph. D., D. D..

ALUMNI TRUSTEES.

Wm. M. Rumbaugh, C. E., (term expires 1898).
Charles Dole, A. M.....(" " 1899).
N. Lewis Sheldon, A. M.,(" " 1900).
George D. Thomas, A. M.,(" " 1901).
Benj. W. Gleason, B. S.,(" " 1902).

EXECUTIVE COMMITTE

FACULTY.

THE REV. ALLAN D. BROWN, LL. D.,
COMMANDER, U. S. NAVY, (RETIRED),
President.

JOHN B. JOHNSON, A. M., C. E.,
Professor of Mathematics and Civil Engineering.

CHARLES C. BRILL, A. M.,
Professor of Chemistry and Physics.

HERBERT. R. ROBERTS, A. M.,
Professor of Latin, Greek and English,
Secretary of the Faculty.

HENRY W. HOVEY, 1ST LIEUT. 24TH INFT., U. S. A.,
Professor of Military Science and Tactics.

FRANK A. BALCH, A. B.,
Professor of History and Modern Languages.

ETHAN ALLEN SHAW, C. E., A. M.,
Instructor in Mathematics, Etc.

PAUL ADDISON DINSMOOR,
Assistant Instructor in Chemistry.

LECTURERS.

FRANK PLUMLEY, A. M.,
Constitutional and Commercial Law and Social Science.

MAJOR-GENERAL OLIVER O. HOWARD, U. S. A.,
Military History.

WILLIAM A. SHAW, S. M.,

MILITARY STAFF.

HENRY W. HOVEY, 1st Lieut. 24th Inft., U. S. A.,
Commandant.

WILLIAM B. MAYO, M.D.,
Surgeon.

THE REV. WILLIAM S. HAZEN, D.D.,
Chaplain.

JAMES EVANS,
Armorer.

NORWICH UNIVERSITY

Was founded at Norwich, Vermont, in 1819, by Captain Alden Partridge, and was known as the American Literary, Scientific and Military Academy. It retained the name until November 6, 1834, when a charter of incorporation was granted it by the State of Vermont, under the name of NORWICH UNIVERSITY, which thus became the *first* Scientific and Classical, as well as the first Military, Collegiate Institution in the United States. Its success was immediate, and every State in the Union had, in its early days, representatives among its students.

In March, 1866, the buildings at Norwich were destroyed by fire, and the University was removed to Northfield, Vt., where the citizens had offered fine grounds and commodious barracks.

It is a characteristic and peculiar feature of the institution that in addition to the usual collegiate courses, the charter requires "a course of military instruction both theoretical and practical." For this reason the discipline is, of necessity, military in form and principle, being modeled after that of the National Military Academy at West Point, of which Captain Partridge was, at one time, the Superintendent: and from its foundation to the present time it has held the distinction of being the foremost military institution in the land, West Point and Annapolis alone excepted. Her sons have done yeoman service in both Army and Navy; from her founder, Captain Partridge, and her second President, Truman B. Ransom, who resigned his chair to lead the 9th New England in the Mexican War (falling at the head of his regiment at the assault of Chapultepec, in September, 1847) through a long line of distinguished men in the Civil War.

until to-day, when her graduates are still to be found in both the services.

The late General William Tecumseh Sherman said of the University, "this military school at one time almost rivaled the National Academy at West Point, and there many a man, who afterward became famous in the Mexican and Civil Wars, first drank in the inspirations of patriotism and learned the lessons of the art of war."

To the discipline and instruction received at this institution, is due the reputation acquired by many of the New England (and other) regiments; and the "Green Mountain Boys" (whose record in the Civil War is second to none) owe their success and renown, largely to the training received within her halls. The Honor Roll of the Civil War contains the names of many generals (among them those of G. P. Buell, G. M. Dodge, Lander, Milroy, T. E. G. Ransom, Truman Seymour, Terry, Seth Williams, Geo. Wright, Horatio G. Wright, late Chief of Engineers U. S. A.), a large number of colonels and other field officers, also of line and non-commissioned officers, together with Rear Admirals Paulding and Carpenter, Commodore Dewey, Captains Ward and Colvocoresses and many others of the Navy.

It has always been, and still is, the highest endeavor of the Trustees and the Faculty to maintain in every respect the high military character of the University, bearing in mind the fact that the aim of any scholastic institution should be not merely to graduate scholars, but to make men. To this end special attention is paid, not only to drill in the manual of arms, the execution of tactical movements and the necessary routine of a post, but also to the development of honor, truth, candor, self respect and loyalty. While the discipline is strict, it is not severe, the government being largely by privileges rather than by restrictions; the student being taught to do the right thing at the right time and in the right way. That discipline of this sort fits men not merely for military, but also for civil, life is shown by the success of

Past Cadets in the clerical, legal, medical, engineering, journalistic and other professions. Some of the best of our railway engineering* (such as that of the Union Pacific, Northern Pacific, Denver & Rio Grande, Mexican Central, Northwestern, Great Northern and many of the roads in Central and South America) has been done in whole or in large part, by men who have been students at this institution, and many of her graduates are to be found to-day in places of trust and responsibility.

The State of Vermont has recognized the University by making her Corps of Cadets a part of the State National Guard, in which each member is regularly enlisted. By this, and by granting her free scholarships, the State Government places a high valuation upon the institution as a training school for the citizen soldier, and attests its gratitude for services already rendered. For like reasons, the United States Government has detailed an officer from the active list of the Army for duty as Professor of Military Science and Tactics, and sends an inspecting officer yearly, to note the condition of the discipline and drill.

That these inspectors find a satisfactory state of affairs is shown by their reports.

> The Inspector for 1893 said: "Although the numbers are small, it is due the institution to say that in its military system, discipline and instruction *it stands at the head of all the colleges in this inspection.*

> The Inspector for 1896 said: "The appearance, bearing, steadiness and behavior were excellent. * * * I was favorably impressed with the condition of the military department.

> The Inspector for 1897 said: "An inspector finds himself out of place here, except in so far as his commendation may be of some use. Parents who are in search of some institution where self-control and self-discipline (all-important factors in future success) are made prominent features, and receive special attention in the education, might do well to visit Norwich University.

> The system of discipline inaugurated by Captain Part-

*See pages 53–54.

ridge in 1834 is still in force here, and is only modified to suit the higher condition of cultivation of the student. The discipline is still as strong, and the cadet is under a strict military regeme every day and every hour that he spends at the University. He is marched to his meals, to prayers, to class room and to church. He is taught to be neat in his person, regular in habits and methodical in work."

The State Inspector (an officer of the Army detailed for service with the Vermont National Guard), also makes a yearly visit and reports to the Governor. In 1896 this officer said:

"These students are able to execute every movement in infantry drill regulations and, as far as possible without horses, artillery movements, with a correctness and precision not to be expected of any other body of troops in the State."

By her work for nearly three quarters of a century, Norwich University merits the confidence and generous support of the general public.

Admission. Candidates for admission must be at least fifteen years of age and must present satisfactory evidence of good moral character. Application blanks will be furnished by the President when requested. No person will be admitted who is less than five feet in height, or who is deformed, or afflicted with any disease or infirmity which would render him unfit for military duty, or who has at the time of presenting himself any disorder of an infectious or immoral character.

After matriculation and before enlistment, a physical examination is held by the surgeon, and this examination is repeated at intervals throughout the course. As a proof of the value of the physical exercise afforded by the military training, it may be stated that the freshman class of last year showed an average increase in weight of 6.69 pounds; in chest expansion of .71 in.; in girth of thigh of 1.28 in.; in girth of calf of .47 in.; in girth of arm of .41 in.; and in girth of forearm of .37 in.; in no case was there a decrease.

All candidates are examined in the following subjects:

MATHEMATICS.

Arithmetic; Algebra to Quadratics; Geometry: first four books, Davies' Legendre or an equivalent.

ENGLISH LANGUAGE.

Grammar; Composition, with special attention to punctuation and the use of capitals.

GEOGRAPHY.

Physical and Political Geography.

HISTORY.

History of the United States.

Those desiring to take the course in

SCIENCE AND LITERATURE,

are examined also in

LATIN:

Cæsar's "Commentaries," four books, or Sallust's "Cataline"; Virgil's "Æneid," six books; Cicero, four orations.

Those desiring to take the course in

ARTS,

in addition to all the above, are examined in

GREEK:

Xenophon's "Anabasis," four books, or one hundred pages Goodwin's Greek Reader; Homer's "Iliad," two books.

Graduates from approved High schools or Academies are admitted upon certificates. Candidates for advanced standing must pass satisfactory examinations in the studies already completed by the class which they propose to enter, as well as in those required for admission. Those, however, from other colleges should bring certificates of honorable dismissal, and marks showing standing. The latter may, on approval by the Faculty, be taken in lieu of examination. No student under suspension or expulsion from any other institution will be received. Students are considered as on probation for eight weeks.

COURSES OF INSTRUCTION.

MILITARY COURSE.

Exercises, Drills or Lectures daily, throughout the four years.

FALL TERM.

Settings up.
Calls.
Manual of Arms.
School of the Company.
Extended Order Drill.
Bayonet Exercises in-doors in bad weather.

WINTER TERM.

Manual of the Sword.
Lectures on Military Engineering or Military Science and Art of War for Seniors and Juniors.
Recitations in Drill Regulations for all but Freshmen; in signal code for Freshmen.

SPRING TERM.

Artillery Drill.
Rifle Practice.
Battalion Drill.
Ceremonies.
Signaling.
Lectures on Customs of the Service.
Camping.

The Cadets are at all times under military discipline, and strict observance of military customs is required.

Cadets are detailed as Adjutant, Officer of the Day, Guard, etc., in their turn, are instructed in making out the different kinds of military reports and are trained in the duties incident to field or garrison.

The Cadet Officers are appointed in accordance with their relative academic and military standing.

Examinations Are held from time to time in the tactics, orders, duties and customs of military service, in order to insure familiarity with them.

Encampment. An Encampment of one week is held near the close of the spring term, and the Corps receives instructions in the details of camp life, together with guard duty. While in camp a general review of all the drills is made to insure familiarity with them.

Considerable time is also devoted to attack and defence of camp, and to rifle practice. There is at this time an inspection by the Adjutant General of the Vermont National Guard, or his assistant.

Practice Marches. The encampment may be varied by practice marches about the State. During the encampment, and on the march, the Corps is at all times under the command of the Commandant, who is responsible for the conduct of the Cadets.

ACADEMIC COURSES.

Four regular courses have been established, as follows:

I. Civil Engineering.

II. Arts.

III. Chemistry.

IV. Science and Literature.

The courses in Civil Engineering and Chemistry have a distinctly practical bearing, and give a thorough training for the technical professions.

The course in Arts embraces the usual classical course with French or German, Physical Science, etc., etc.

The course in Science and Literature is intended for such as may not wish to pursue a full course in Classics or Mathematics, or one for a distinctly scientific profession.

Each of these courses extends through four years, and is intended to give the student a liberal preparation for the duties of life.

Changes are made in the course in Chemistry to meet the wants of students preparing for Medicine and Pharmacy.

NOTE. — The figures after each subject indicate the number of recitation periods of sixty minutes each per week.

FRESHMAN YEAR.

FALL TERM.

Algebra 5
French or German 3
Inorganic Chemistry ..... $3\frac{1}{4}$
(text 2, laboratory $1\frac{1}{4}$.)
Rhetoric 2
Freehand Drawing 4
English 1

WINTER TERM.

Geometry 5
French or German 3
Inorganic Chemistry ..... $3\frac{1}{4}$
(text 2, laboratory $1\frac{1}{4}$.)
Rhetoric 2
Lettering 2
Tinting and Shading 2
English 1

SPRING TERM.

Trigonometry 5
French or German 3
Inorganic Chemistry ..... $3\frac{1}{4}$
(text 2, laboratory $1\frac{1}{4}$.)
Rhetoric 2
Mechanical Drawing 4
English 1

SOPHOMORE YEAR.

FALL TERM.

Analytical Geometry 3
French or German 3
Mechanics and Heat ..... $3\frac{3}{4}$
Descriptive Geometry and Drafting 6
English 1

WINTER TERM.

Differential Calculus 3
French or German 3
Electricity and Magnetism ..... $3\frac{3}{4}$
Descriptive Geometry and Drafting 6
English 1

SPRING TERM.

Integral Calculus 3
Land Surveying, Leveling, and Field Work 6
(text 2, field work 4.)
Acoustics and Optics ..... $3\frac{3}{4}$
Detail Drawing, Tracing, Blue Prints 6
English 1

JUNIOR YEAR.

FALL TERM.

Mechanics of Engineering. —
Statics and Dynamics 3
Geology 3

Advanced Surveying —
Topographical, Municipal, and Geodetic 6
(text 2, field work 4.)
English 1

WINTER TERM.

Mechanics of Engineering —
Materials 3
Blowpipe Analysis and Determinative Mineralogy 2
Qualitative Analysis 4

Colored and Pen Topography ... 3
Trusses and Arches 2
Graphics of Trusses and Arches . 3
English 1

SPRING TERM.

Stone Cutting 4
(text 2, drafting 2.)
Mechanics of Engineering —
Hydraulics, Retaining Walls, Masonry Dams 3

Botany 3
Bridge Stresses 6
(text 2, drafting 4.)
English 1

SENIOR YEAR.

FALL TERM.

Commercial Law 3
Metallurgy 2
Bridge Designing 2½
Railroad Engineering (curves, turnouts and practical location of railway) 6
(text 2, field work 4.)
Drawing —
Railroad Maps 3¾
English 1

WINTER TERM.

Constitutional or International Law 3
Hydraulic and Sanitary Engineering 3

Civil Engineering —
Materials of Engineering, Foundations, Canals, Highways 3
Drawing —
Design of Bridges 6
English 1

SPRING TERM.

Spherical Astronomy —
Determination of Time, Latitude, etc 2
Contracts and Specifications 2

Political Economy 3
Highway Engineering 2
Railroad Engineering 3
Thesis 5

II. THE COURSE IN ARTS.

Leading to the degree of Bachelor of Arts.

FRESHMAN YEAR.

FALL TERM.

Algebra 5	Rhetoric 2
Memorabilia and Greek Prose... 3	Inorganic Chemistry ..... $3\frac{1}{4}$
Livy and Latin Prose 3	(text 2, laboratory $1\frac{1}{4}$.)
	English 1

WINTER TERM.

Geometry 5	Inorganic Chemistry ..... $3\frac{1}{4}$
Herodotus 3	(text 2, laboratory $1\frac{1}{4}$.)
Tacitus—Germania 3	Lettering 3
Rhetoric 2	English 1

SPRING TERM.

Trigonometry 5	Rhetoric 2
Homer's Odyssey 3	English 1
Cicero—	Inorganic Chemistry ..... $3\frac{1}{4}$
De Senectute, De Amicitia 3	(text 2, laboratory $1\frac{1}{4}$.

SOPHOMORE YEAR.

FALL TERM.

Sophocles 2	Ancient History 2
Juvenal's Satires or Ovid 2	English Literature 2
Mechanics and Heat ..... $3\frac{3}{4}$	English 1

WINTER TERM.

Demosthenes ..... $2\frac{1}{2}$	English Literature 2
Horace—Odes and Epodes 2	Mediæval History 2
Electricity and Magnetism .... $3\frac{3}{4}$	English 1

SPRING TERM.

Æschylus ..... $2\frac{1}{2}$	Modern History 2
Horace—Satires and Epistles 2	Land Surveying 6
Acoustics and Optics ..... $3\frac{3}{4}$	(text 2, field work 4.)
English Literature 2	English 1

JUNIOR YEAR.

FALL TERM.

Demosthenes 2	French or German 3
Pliny 2	English Literature 2

WINTER TERM.

Plato	2	English Literature	2
Plautus	2	State	3
French or German	3	English	1

SPRING TERM.

Greek Syntax	2	English Literature	2
Latin Syntax	2	United States History	3
French or German	3	English	1

SENIOR YEAR.

FALL TERM.

Analytical Chemistry	6	Psychology	3
French or German	3	English	1
Commercial Law	3		

WINTER TERM.

French or German	3	Logic	3
International Law	3	English	1
Constitutional Law	3		

SPRING TERM.

French or German	3	Astronomy	2
Political Economy	3	Ethics	2
Thesis	5		

III. THE COURSE IN CHEMISTRY.

Leading to the Degree of Bachelor of Science in Chemistry.

FRESHMAN YEAR.

FALL TERM.

Algebra	5	Rhetoric	2
French, German or Latin	3	Freehand Drawing	4
Inorganic Chemistry (text 2, laboratory 1½)	3½	English	1

WINTER TERM.

Geometry	5	Rhetoric	2
French, German or Latin	3	Lettering	2
Inorganic Chemistry (text 2, laboratory 1½)	3½	Tinting and Shading	2
		English	1

SPRING TERM.

Trigonometry 5	Rhetoric 2
French, German or Latin..... 3	Mechanical Drawing..... 4
Inorganic Chemistry..... $3\frac{1}{4}$	English 1
(text 2, laboratory $1\frac{1}{4}$.)	

SOPHOMORE YEAR.

FALL TERM.

French, German or Latin..... 3	Qualitative Analysis..... 10
Mechanics and Heat..... $3\frac{3}{4}$	English 1

WINTER TERM.

French, German or Latin..... 3	Qualitative Analysis..... 6
Electricity and Magnetism.... $3\frac{3}{4}$	English 1
Blowpipe Analysis..... 6	

SPRING TERM.

French, German or Latin..... 3	Quantitative Relations..... 3
Acoustics and Optics..... $3\frac{3}{4}$	English 1
Qualitative Analysis..... 10	

JUNIOR YEAR.

FALL TERM.

Geology..... 3	Zoölogy..... 2
Organic Chemistry 2	English Literature 2
Gravimetric Analysis 10	English 1

WINTER TERM.

Organic Chemistry 2	English Literature 2
Gravimetric Analysis..... 12	English 1

SPRING TERM.

English Literature 2	Botany..... 3
Organic Chemistry 2	English 1
Volumetric Analysis..... 10	

SENIOR YEAR.

FALL TERM.

Commercial Law 3	Medical Chemistry..... 6
Metallurgy 2	English 1
Toxicology 6	

WINTER TERM.

Constitutional Law 3	Food Analysis..... 12
International Law..... 3	English 1

SPRING TERM.

Political Economy	3	Thesis	5
Water Analysis	10		

IV. THE COURSE IN SCIENCE AND LITERATURE.

Leading to the Degree of Bachelor of Science.

FRESHMAN YEAR.

FALL TERM.

Algebra	5	Rhetoric	2
Livy and Latin Prose	3	Free-hand Drawing	4
Inorganic Chemistry (text 2, laboratory 1¼.)	3¼	English	1

WINTER TERM.

Geometry	3	Rhetoric	2
Horace Odes and Epodes	3	Lettering	2
Inorganic Chemistry (text 2, laboratory 1¼.)	3¼	Tinting and Shading	2
		English	1

SPRING TERM.

Trigonometry	3¾	Rhetoric	2
Horace — Satires and Epistles	3	Mechanical Drawing	4
Inorganic Chemistry (text 2, laboratory 1¼.)	3¼	English	1

SOPHOMORE YEAR.

FALL TERM.

Analytical Geometry	3	Ancient History	2
Juvenal's Satires	2	English Literature	2
Mechanics and Heat	3¾	English	1

WINTER TERM.

Tacitus	2	Mediæval History	2
Electricity and Magnetism	3¾	English Literature	2
Calculus	3	English	1

JUNIOR YEAR.

FALL TERM.

French or German.....3	English Hist
Geology.....3	English Lite
Zoölogy.....2	English ....

WINTER TERM.

French or German.....3	English Lite
Analytical Chemistry.....6	State.....
Blowpipe Analysis.....2	English ....

SPRING TERM.

French or German.....3	Botany.....
English Literature.....2	English ....
United States History.....3	

SENIOR YEAR.

FALL TERM.

French or German.....3	Psychology.
Commercial Law.....3	English ....
Metallurgy.....2	

WINTER TERM.

French or German.....3	Logic.....
International Law.....3	English ....
Constitutional Law.....3	

SPRING TERM.

French or German.....3	Ethics.....
Political Economy.....3	Thesis.....

TEXT BOOKS AND BOOKS OF REFERENCE.

MATHEMATICS.

Astronomy.....Young
Algebra.....Wells' University
Analytical Geometry.....Loomis
Calculus.....Taylor
Geometry.....Davies' Legendre
Mechanics.....Church
Trigonometry.....Davies
Descriptive Geometry....Church

ENGINEERING.

Surveying.....Johnson
Railroad Surveying.....Carhart
Bridge Stresses.....Merriman
Civil Engineering...Patton and Trautwine
Specifications.....Johnson
Hydraulic Engineering..Fanning
Sanitary Engineering.....Adams
Stereotomy.....Mahan
Stresses in Framed Structures.....Johnson and Bryant
Wellington's Earth Work Computation
Foundations.....Patton
Bridge Designing.....Merriman
Hydraulics.....Merriman

SCIENCES.

Botany — Gray's School and Field Book.
Chemistry — Inorganic...Shepard
Chemistry, Analysis, Qualitative, Elliot, Fresenius
Volumetric Analysis.....Sutton
Analysis, Quantitative..Fresenius
Organic Industrial Chemistry, Sadtler
Blowpipe, Plimpton's Qualitative, Plattner's Qualitative and Quantitative, by Cornwall
Metallurgy, and Assaying, Hiorn's Text-Book of Elementary Metallurgy, Hiorn's Practical Metallurgy and Assaying.
Agricultural Chemical Analysis, Frankland
Medical Chemistry, Ralfe's Clinical Chemistry.
Organic.....Remsen
Physics, Gage's Elementary, with lectures on special subjects.
Zoölogy.....Packard
Geology.....Le Conte's Compend
Mineralogy, Dana's Manual, and Foye's Tables.
Food Adulteration and its Detection, Battershall.

HISTORY, POLITICAL SCIENCE AND LAW.

History — Ancient, Mediæval and Modern.....Myers
English.....Montgomery
Political Economy.....Walker
Psychology.....James
Logic.....Davis
Ethics.....Muirhead
International Law.....Woolsey
Constitutional Law.....Cooley
Commercial Law.....Townshend
The State.....Wilson
Johnson's American Politics.

English Liter

Genung's Practical Rhetoric.
Elocution—Clark's Notes on Reading.

MILITARY SCIENCE.

Drill Regulations for Infantry and Artillery.
Small Arms Firing Regulations.
Wagner's Organization and Tactics.
Wagner's Security and Information.
Batchelor's F
Winthrop's M
Manual of Fie
Also other boo
which are f
struction in

DEGREES, ETC.

The candidate for any degree must deposi
a satisfactory thesis on some scientific or lit
nected with his department.

Degrees of Graduation. The degree of Bachelor of Engineering is conferred u who has completed the cou neering.

The degree of Bachelor of Arts is conferr dent who has completed the course in Arts.

The degree of Bachelor of Science in C ferred upon any student who has complet

Advanced Degrees. The Master's degree in Science or Arts is conferred upon graduates of three years' standing, who, having taken the corresponding Bachelor's degree, have during that time been engaged in professional, literary or scientific pursuits, or have pursued a course marked out by the Faculty for two years after graduation, and have passed the requisite examinations.

The degree of Civil Engineer is conferred upon graduates in Civil Engineering of three years' standing, who have pursued the profession of engineering during that time, have passed the requisite examinations, and have presented a satisfactory thesis; or upon graduates who have completed a post-graduate course.

Teacher's Certificates. In accordance with the decision of the Superintendent of Education of the State, the Hon. Mason S. Stone, "Graduates are entitled to a five years' teacher's certificate without examination."

Commissioned Officers. Upon graduation, Cadet Officers receive commissions signed by the President of the University, and by the Adjutant and Inspector-General of the State.

SUBJECTS AND METHODS OF INSTRUCTION.

Civil Engineering. The work of the first year in this department is common to all courses. The thorough training of the eye and hand in Freehand Drawing is of the greatest importance in all subsequent drafting. The course embraces accurate outline drawing, elementary perspective, sketching, object drawing, pencil shading, and designing. The effort is made to produce designers, instead of mere copyists. Practice in lettering, large and small drawings, general orders, etc., also in tinting and shading with the right line pen, and with brush and water colors, is given in the second term. Neatness of

text and rapidity of execution are aimed at. In the third term, dexterity in handling drafting instruments is acquired. Various applications of geometry to drafting, and the orthographic and isometric projections of joints and splices in wood construction are taught. Descriptive Geometry is taught in the fourth and fifth terms, with special reference to its application to shades and shadows, machine construction, stone cutting, and to the design of stone bridges, culverts, spiral stairways, sewer intersections, etc.

The course in bridges begins with the drawing of details, which are measured by students while visiting engineering structures. Thus, while the student acquires facility in drawing, he becomes familiar with the various details of a bridge. An extended course in Bridge Stresses is given in the ninth term, and in the eleventh term the student is given specifications, and required to apply his theoretical knowledge in designing railway and highway bridges of wood, iron and steel, to the minutest details. In Pen Topography and Colored Topography the students use the conventions for map making, and apply them in the maps platted from the land and railroad surveys.

An extended course in Applied Mathematics or Mechanics of Engineering is given, in which engineering problems concerning rigid bodies at rest or in motion, the strength of engineering materials, and the statics and dynamics of liquids and gases are practically treated.

The laboratory work of the eight term, and the Metallurgy of the tenth, enable the student to study the materials of engineering with regard to strength and constituents. Under Hydraulic, Sanitary and Civil Engineering, the design and construction of water supply and distribution systems, sewerage systems, and sewage disposal, and of canals, tunnels, foundations in water and on land, and river and harbor improvements, are treated.

Six hours of drafting per week are required throughout the course, and while the above subjects are being studied, nu-

merous designs of engineering structures are made in the drafting room. In the Reading Room are placed the best of engineering periodicals, which give descriptions of all new works of special interest, and enable the student to keep up with the latest methods of construction.

In Land Surveying and Levelling, practice in using and adjusting instruments is given, and the most improved methods of map making, dividing up and parting off land, and supplying omissions in old surveys are taught, both in classroom and field. The advanced surveying of the seventh term includes Topographical, Geodetic and City Surveying, with field work and practice in the drawing room.

The Highway Engineering of the last term is calculated to teach the student the essential principles of this branch of engineering, which has become so prominent.

In Railroad Surveying the field work consists of preliminary surveying, final location, slope staking, etc. Office work is given in making contour maps of the line, profiles, earthwork calculations, estimates of cost, etc. The lectures on Economic Railway Location enable the student to decide between two or more proposed railway lines, and to reduce expenditures in the operation of lines already built.

In the last term, students are required to make specifications and contracts for engineering projects of their own design. The course given in this term in Astronomy provides the engineer with as much of this subject as his profession requires.

Equipment. The department has a collection of designs for Free-hand and Perspective Drawing, and for modern houses, cottages, public buildings and architectural details. It has also collections of blue prints of the best modern bridges, including pivot draws, plate girders, and various types of pin-connected and riveted trusses, as well as of sewer details and sewer constructions.

The students have the use of the best modern instruments for angle and line measurement, including transits, com-

passes, levels, plane table, sextant, rods, chains, etc., and have much more practical engineering field work than is usually given in schools, with the first-class instruments now used in modern engineering.

Mathematics. In the department of Mathematics, sufficient attention is paid to practical applications to enable students to see the utility of their studies, and to assist them in the scientific professions.

Theory is developed in as careful and complete a manner as possible, in order that the student may receive that mind discipline which is so valuable an equipment for all pursuits, whether technical or general. The clearest and most concise text-books are sought for; abstruse and unprofitable discussions are avoided; original work is encouraged, and students are called on for personal recitations more frequently than in most institutions of similar character.

Geology and Mineralogy. The treatment of Geology consists of text-book work supplemented by frequent excursions in the field, in which the many interesting features of the region are examined. Colored maps, representing the geological formations of counties or large sections, are required. Mineralogy is taken up in connection with Geology, the student being required to identify minerals by their physical properties. In connection with this work each student is required to make a collection of fifty minerals, which he determines and classifies. To aid him in his work, he is given instructions in Blow-pipe Analysis and Determinative Mineralogy.

History and Political Science. The course of History affords a connected and comprehensive view of the history of civilization from the earliest times to the present. By investigating the causes which underlie the world's history, the instruction aims not only to train the memory and develop the reasoning faculties, but to fit men to deal wisely with those practical social questions of the present, upon whose solution the experience of the past

throws the most valuable light. Particular attention is given to the constitutional development of England and of the United States.

Political Economy is taught in the Senior year by means of text-books, lectures and informal discussions. A theoretical view of the subject is followed by a practical study of Land and Labor Questions, Socialism, Finance, Public Credit, the Principles of Taxation, and Tariffs.

Psychology. An examination of the different sources of knowledge, an analysis of the various mental states, and a classification of the faculties, are followed by a study of the relation of psychology to education, for the benefit of those students who may desire to engage in teaching. The laws governing the processes of acquiring and reproducing knowledge, the development of the faculties, together with the ways in which they interact one on another, and the play of motives, furnish the foundation of rational instruction and government, and are of special value to the teacher.

Logic. Logic is taught by recitations and informal lectures. The objects of this study are to give the student vigorous mental discipline, training in exactness, and certainty in thinking, skill in detecting fallacy, and assistance in all the sciences by directing attention to those points of method in each science, which the cultivator is apt to neglect in his zeal for the subject matter of each.

Modern Languages. The chief aim of this department is to enable the student to read French and German with ease and fluency. By this method it is intended, not only to familiarize the ear with the spoken language, and thus to lay the best ground-work for conversation, but also to render easy and intelligible the grammar work and reading which follow.

After a thorough course in the essentials of grammar, accompanied with composition, and the reading of easy prose, various selections of prose and poetry from the best authors are read.

Much attention is given to the relation of the languages to English and to each other, especially in the matter of derivative and cognate words.

To enrich the student's English vocabulary, to cultivate his taste for good literature, and to broaden his mental horizon, are further objects of the instruction.

Rhetoric, English Criticism, Elocution.

The instruction in this department aims to deal in the most practical way with the composition and delivery of good English. The work, which is uniform in all courses, is continuous throughout the four years.

In Rhetoric, to which subject is devoted two hours each week during the Freshman year, much of the time is spent in the application of the principles of Rhetoric to the correction of faulty sentences. This instruction is supplemented during the remainder of the course, by lectures on the higher qualities of style, in connection with the essay work. As to punctuation, paragraphing, etc., students are required to present their essays and manuscript orations in proper form for publication.

In English Criticism, while it is sought to eradicate faults of style, especial attention is given to the development of the student's individuality and power of expression. An important feature is the critical examination of English prose masterpieces, which is made in connection with the study of English Literature. Essays and orations are carefully revised, returned to the writers for correction, and afterward read and criticised in class. That the student may learn to study his subject comprehensively, and to arrange its parts logically, instruction is given in the formation of essay outlines.

In Elocution, the chief ends sought are distinct and forcible utterance, just emphasis, and ease and naturalness of expression.

Much stress is laid upon the subject of extempore speaking. Practice is given also in declamations, essays, etc., and

acquirement of that ease and fluency in public speaking which is so important a factor in the various walks of life. Occasionally the whole corps is organized into a deliberative body, assimilated to the Upper House of the State Legislature, cadets in turn being required to introduce and report bills, support or oppose them on the floor, etc., etc.; in this way valuable experience is gained in the practical application of Parliamentary law.

Botany. The course in Botany begins in the spring term of the Junior year, and comprises Vegetable Morphology and Physiology, Plant Analysis, and the preparation of Herbaria.

The life history of vegetation is traced from seed through stems and roots, leaves, branches, buds, flowers and fruit, to seed again.

Gray's lessons are used, with lectures and field work. A few of the more difficult orders of Phænogams are studied. Attention is given to the various kinds of parasitic fungi so destructive to crops.

Zoology. Structural Zoology is taught by recitations and by laboratory demonstrations. Dissections and drawings are made of representative species in each group of animals. The purpose of this course is to give the student a definite conception, by means of sense-images, of the characteristic structure of the leading modifications of the Animal Kingdom.

Classics. It is the aim of the Classical Department to make the work as thorough as possible, and to give the student a general literary culture. A thorough knowledge of grammatical forms is considered necessary, and especial attention is given during the first year to etymology and syntax, vocabulary and idioms. In this manner not only a thorough knowledge of the language is obtained, but the greatest possible amount of mental discipline is derived. The similarity between the Greek and Latin on the one hand, and the English on the other, is pointed out, and especial study is

given to roots from which English words are derived. The course is designed to embrace all the leading classes of composition in Greek and Roman Literature, and to afford accurate historical knowledge of the Greek and Latin characters and customs. Attention is given to right translation, and care is taken that the student translate into good English, that he may thus improve his knowledge of English in the study of the classics.

Chemistry. The study of Chemistry is begun by students in all courses, in the Freshman year. It consists during this year of lectures and recitations upon general Inorganic Chemistry, in which the principles of the science are brought out and fully explained. Following this is a description of the properties of elements and compounds, and of the methods used for preparing them. To bring this work more clearly before the student, a large number of experiments are performed before the class, in many of which the students are permitted to assist.

In addition to the recitations, one period a week is devoted to laboratory practice, in which the student performs for himself the experiments given in the section room. The second year's work is intended for those who take the Chemical Course, and consists of daily laboratory practice. The work of this and of the following years is performed by the students themselves, under the direction of the professor and his assistant. Qualitative examinations, and as the student becomes more advanced, quantitative examinations of minerals, commercial products, fertilizers, drugs and medicines are made. For those students desiring to fit themselves for the study of Medicine and Pharmacy, special instruction is provided in the Chemical Laboratory.

Three hours and three-quarters a week, during the Sophomore year, of all courses, are devoted to the subject of Physics.

From this brief outline it will be seen that the aim in all departments is to teach the practical application of the prin-

ciples of the text-books, and to give to our graduates that ability to apply theory to practice, which is too often sadly lacking from the ordinary course of instruction.

GENERAL INFORMATION.

Scholarships. Thirty State scholarships, covering tuition in any of the departments, and room rent, are now available.

Young men residing in Vermont, who may be desirous of obtaining a State scholarship, should apply first to the PRESIDENT for information as to whether a vacancy exists in their county. Learning of a vacancy, application for appointment should then be made to one of the county Senators.

In addition to the above, a number of half-scholarships have been created by benevolent friends for the benefit of needy young men who desire to obtain an education.

There are also two Scholarships given by an Alumnus of 1892, and a third one given by another Alumnus.

Information regarding these scholarships can be obtained on application to the PRESIDENT.

Expenses. A prominent feature of the University is the very reasonable charges for instruction, and the low expense of living; the charge being only $90 per year for instruction, room rent and incidentals. Students pay for board and laundry at the Mess Hall, $3.25 per week, which makes the whole expense less than the living expense alone in cities, and at other institutions of learning.

Following is a statement of the expenses:

Tuition, per academic year, - -	$65.00
Room rent, - - - - - - -	15.00
Library, Reading-room, Bath, etc., etc.,	10.00
Board and laundry, thirty-six weeks,	117.00
Total for year, - - -	$207.00

Uniform, complete, without overcoat, $18 to $23.

The charge for room rent is based upon the supposition that two students occupy the same room. Rooms are unfurnished. Students bring bed linen, blankets and towels. Articles to be laundried should be plainly marked to ensure return. Second-hand furniture can generally be bought at low prices, and sold at a slight reduction.

A room can be furnished at a cost of from $10 upwards, to each occupant.

Rooms are lighted by electricity and heated by coal, students being charged for the amount used.

Cadets who are appointed buglers receive $25 per year for their services.

Students are required to pay $10 for the incidentals of the year on the first Friday of the Fall Term.

Bills are rendered early in each term and are payable within fifteen days after rendition, failing which suspension from class-room privileges may be enforced.

The diploma fee on graduations is $10.

Students in the Course in Chemistry are required to deposit $10 at the beginning of each term of the Sophomore, Junior, and Senior years, the amount not consumed being returned at the end of each term.

In the Engineering course in Qualitative Analysis, $3 is charged in the second term of the Junior year. In the other courses a fee of $5 per term is charged for Qualitative Analysis.

A fee of $3 per term is charged for Determinative Mineralogy.

A fee of $1 per term is charged members of the Freshman class taking the laboratory work in connection with Inorganic Chemistry.

These charges are for chemicals, and do not include breakages or waste of materials. The average expense for materials for students in the Chemical course is from $6 to $8

Bureau of Information. A Bureau of Information has been recently established. It is intended that this bureau shall serve in assisting graduates in obtaining desirable positions as Teachers, Engineers, Chemists, etc. Those of the Alumni who desire such positions should send their addresses to the President, that they may receive the benefit of the numerous applications for men, of which he is frequently in receipt. The value of this feature is attested by the comparatively large number of graduates who, since its establishment, have found lucrative positions without trouble or expense to themselves.

The Reveille. The Cadets conduct a monthly magazine devoted to the interests of the University, the Alumni, and the Corps itself. Upon this paper excellent drill in journalism is afforded.

Reading Room. The Reading Room is provided with the leading literary, political and technical periodicals of the day, under the direction of a committee composed of two members of the Faculty and one Cadet.

Students' Societies. Two fraternities, A Σ P and Θ X, exist among the students, (having been founded some forty years ago) in which valuable literary work is done, while at the same time social privileges are enjoyed.

Religious Features. Prayers are held in the morning before the opening of academic exercises, the President officiating. On Sunday morning each Cadet is required to attend divine service with some one of the village congregations, the choice being made at the beginning of the term by the Cadet himself, if of age, or otherwise by his parents or guardians, and adhered to throughout the term. The religious societies of the village are: Congregational, Episcopal, Methodist, Roman Catholic and Universalist. While Cadets are held to a strict observance of the rules for religious exercises, and while all immoralities

As a stimulus to good work in the class-room, those students, who reach a certain standard of excellence in daily recitations, are not required to take the final examinations at the close of the term.

The Sheldon Prize Speaking. Three prizes of $15, $10 and $5, respectively, established by N. Lewis Sheldon, A.M. (1884), are given to the three of the ten competitors from the Sophomore and Freshman classes who show the greatest merit in declamation in a contest held during Commencement week. These competitors are chosen at a preliminary contest held early in the spring term, in which all members of both classes are required to participate. Prize winners in previous contests are debarred from competing.

The Austin Trophy. Mr. Fred T. Austin, M. S. (1888), has established an annual trophy, consisting of three medals, of gold, silver, and bronze, respectively, given to the three cadets making the highest score at target practice, the winners holding them for one year.

The Faculty Gold Medal. This medal is bestowed upon the member of the Senior class who has the highest general average from entrance to the close of the winter term of the Senior year.

The Thomas Medal. Mr. Geo. D. Thomas, A. M. (1876), gives annually a gold medal to the cadet who has the highest general average for the year ending with the close of the winter term: this competition is open to the three senior classes.

The Shuttleworth Prize. Lieut. E. A. Shuttleworth, U. S. A., M. S. (1891), gives annually, a regulation foot-officer's sword to the member of the Junior class having the highest military standing.

Junior Oratorical Prize. An Alumnus has offered two prizes of $30 and $20 respectively, to the two members of the Junior class who are adjudged the winners in an oratorical contest to be held during the winter term.

The Freshman Prizes. A silver medal is given by the President to each of the three members of the Freshman class whose general average, military and academic standing, respectively, are the highest.

Standing, Etc. Academic standing depends upon recitations; military standing upon marks of merit and demerit, together with proficiency in military duties; the former counting two and the latter one in determining the general standing. Immoralities, technical and minor offences, are marked with demerits and are punishable in other ways. Whenever purely academic duties require variation in special matters, the analogies of military usage are maintained, so far as practicable.

Uniform. A blouse of the pattern worn by officers of the U. S. Army; trousers dark blue with light red stripe; black cravat; standing collar; U. S. regulation forage cap; boots or high shoes of black leather; overcoat of black or dark blue, ulster cut.

Cadets are required to wear uniform, when on duty, after eight weeks from entrance.

Conditions. A student deficient in work up to the end of the winter term of any year, is not ranked with the next class until such work is made up. No cadet is eligible for a Commencement honor who has not made up all deficiencies before the first Saturday of the spring term of his Senior year. The operation of this rule may be suspended by vote of the Faculty in those rare cases which warrant such action.

Athletics. A student is not permitted to take part in any athletic game, either singly or in a team representing the University, with the representatives of any other educational institution outside of Northfield, unless he has been a student in full standing from the beginning of the term in which the game is held, and has a passing standing in studies and deportment. The registered colors of the University are maroon and gold.

Library and Collections. The library is very well supplied with works of reference, and in addition contains many works of great value which are not to be found in newer libraries. The mineral collection is ample for the purpose of instruction. Manufacturers, dealers in building materials, and others, are requested to send specimens of their products to the Department of Engineering. Specimens in Natural History, Minerals, etc., will be gladly received. Alumni, Past Cadets, Authors and Publishers are earnestly requested to contribute their publications to the Library.

Resident in Barracks. A member of the Faculty resides in the Barracks with the cadets, thus insuring a strict observance of Regulations.

Location. Northfield being located on the main line of the Central Vermont Railroad is easy of access from all directions. The Barracks are in direct telegraphic and telephonic connection with the offices and exchanges in Vermont and elsewhere. There is probably no State that can boast of a more healthful climate than Vermont. North-

field is in the central part of the State, ten miles from the Capital, Montpelier. A popular resort in summer, it loses none of its healthfulness in winter. The water is pure and clear, and the University and village are well supplied from mountain springs.

Reduced Fares. The Central Vermont and Rutland Railroads carry students for two cents per mile, on certificates, to be obtained through the President.

ROUTINE OF DUTY.

Reveille in accordance with the Season; Police Call and Inspection of Quarters; Breakfast; Drill; Prayers; Study and Recitation hours; Dinner; Afternoon Roll Call; Study and Recitation hours; Supper; Retreat; Study hours; Taps (Lights out) 10 p.m.

Retreat on Friday, Saturday and Sunday nights at the formation for supper. On Friday and Saturday nights, Taps at 10.30 p.m.

On Friday nights there is release from quarters until 11 p. m. for Seniors, and until 10.30 p. m. for other Cadets; and on Saturday nights the same privileges are granted for attendance at fraternity meetings.

Additional evening privileges are granted to Cadets who earn them by good conduct.

This routine is in effect from Retreat on the first day until noon of the last day of each term, with necessary modifications on Saturdays and Sundays; it is suspended from after breakfast until Taps on Thanksgiving Day; also on Washington's Birthday and Memorial Day (except during the exercises of the day), if they do not fall on Sunday.

Cadets are expected to be in attendance during the whole of each term, unless granted leave of absence for special and weighty reasons.

ONE FROM EVERY CLASS REPRESENTED.

SECRETARY AND TRUSTEE ALUMNI ENDOWMENT FUND,

J. B. JOHNSON, '79, *Northfield, Vt.*

TREASURER,

H. C. CADY, '91, *Northfield, Vt.*

COMMITTEE ON INCREASING THE ALUMNI ENDOWMENT FUND,

N. L. SHELDON, '84, *Boston, Mass.*

R. L. IRISH, '89, *Brooklyn, N. Y.*

Members of the Association not present may vote by written ballot at the annual election of Trustees It is therefore important that each Past Cadet keep the Secretary informed of his full address, and notify him promptly of any change.

BOSTON ALUMNI ASSOCIATION.

ANNUAL REUNION IN BOSTON.

OFFICERS FOR 1898.

PRESIDENT,

THE REV. HOWARD F. HILL, '68.

VICE-PRESIDENTS,

ROBERT B. EATON, '40.
SAMUEL H. CROSS, '63.
DEXTER W. LEWIS, '90.

SECRETARY,

N. L. SHELDON, '84, *Boston, Niles Building.*

TREASURER,

GEORGE D. THOMAS, '76.

NEW YORK ALUMNI ASSOC

ANNUAL REUNION IN NEW YORK

OFFICERS FOR 1898.

PRESIDENT,

GRENVILLE M. DODGE, '5

VICE-PRESIDENTS,

CYRUS H. FAY, '37.
CLAYTON E. RICH, '63
WM. R. MEAD, '64.
WILLIAM M. RUMBAUG

SECRETARY AND TREASURER,

ROBERT L. IRISH, '89, *443 Myrtle Avenue*

HONOR LIST 1897.

VALEDICTORIAN AND SENIOR GOLD MEDALIST.

CHARLES ERNEST WALKER.

SALUTATORIAN.

WINFRED BALLARD CARR.

COMMENCEMENT SPEAKERS.

HENRY VAIL DUNHAM.

WILLIAM CLARENCE SPAFFORD.

HONORABLE MENTION.

CHARLES ERNEST WALKER, '97.

ARTHUR ELLSWORTH WINSLOW, '98.

JOHN POOL MOSELEY, '99.

JOHN SPAULDING BATCHELDER, '00.

) TO THE WAR DEPARTMENT AS HIGHEST IN MILITARY

WINFRED BALLARD CARR.

CHARLES ERNEST WALKER.

HENRY VAIL DUNHAM.

PRIZE SPEAKERS.

1st Prize, RALPH WALDO DUNSMOOR.

2d Prize, HEZEKIAH KIBBE BROOKS.

3d Prize, HAROLD SAMUEL RICHMOND.

WINNERS OF THE AUSTIN TROPHY.

Gold Medal, LEONARD JOEL PARKER.

Silver " FRANK LEROY ALDRICH.

Bronze " JAMES WILBUR COOK.

WINNER OF THE THOMAS GOLD MEDAL.

ARTHUR ELLSWORTH WINSLOW.

WINNER OF THE SHUTTLEWORTH PRIZE.

COMPETITORS IN PRIZE

1897.

HEZEKIAH KIBBE BROOKS,

FRED ALDRICH WEBSTER,

BERT FRANK ALLEN,

CHARLES BATCHELDER,

JOHN SPAULDING BATCHELDI

NORRIS MEAD DAVIS,

RALPH WALES DUNSMOOR,

*ALBERT CHARLES PATTERSON

HAROLD SAMUEL RICHMOND,

FREDERICK FULLERTON WILE

*Did not participate owing to illness.

BATALLION ORGANIZATION.

HENRY W. HOVEY, 1st Lieut. 24th U. S. Infantry,
Commandant.

FRANK WINSLOW DENISON, Cadet 1st Lieut. and Adjutant.
GEORGE HAROLD ELLIS, Cadet 1st Lieut. and Quartermaster.
LOUIS CHARLES BUMP, Cadet Sergeant-Major.

CADET COMPANIES.

"A."

CAPT. ARTHUR ELLSWORTH WINSLOW.
1ST LIEUT. CHARLES EDWARD DUGGAN.
2D LIEUT. EDWIN BOOTH.

"B."

CAPT. PAUL ADDISON DINSMOOR.
1ST LIEUT. LEONARD JOEL PARKER.

ROSTER.

SENIOR CLASS.

Name.	Course.
Edwin Booth,	A.....
Louis Charles Bump	C. E.....
James Wilber Cook,	C. E.....
Frank Winslow Denison,	C. E.....
Paul Addison Dinsmoor,	Ch.....
Charles Edward Duggan,	C. E.....
George Harold Ellis,	A.....
*Thomas Bernard Gleason,	C. E.....
Leonard Joel Parker,	C. E.....
George Everett Talbot,	C. E.....
Arthur Ellsworth Winslow,	C. E.....

* Deceased.

JUNIOR CLASS.

Name.	Course.	Home Address.
Frank Leroy Aldrich,	C. E.	*Northfield*
Hezekiah Kibbe Brooks,	C. E.	*St. Albans Bay*
Charles Horace Eaton,	C. E.	*Champlain, N. Y.*
George Prentice Lovell	C. E.	*Northfield*
John Pool Moseley,	C. E.	*Northfield*
Richard George Rich,	C. E.	*So. Manchester, Conn.*
Fred Aldrich Webster,	S. & L.	*Northfield*

Name.	Course.
Bert Frank Allen,	C. E.....
Sanford Harris Ashley,	C. E.....
Charles Batchelder,	C. E.....
John Spaulding Batchelder,	S. & L.....
Louis Franklin Chamberlain,	C. E.....
Norris Mead Davis,	S. & L.....
William Driscoll,	C. E.....
Ralph Wales Dunsmoor,	C. E.....
Everett Howard Field,	A.....
Mark Leonard Poor,	Ch.....
Harold Samuel Richmond,	C. E.....
Berton William Sibley,	C. E.....

FRESHMAN CLASS.

Name.	Course.	Home Address.
*Douglas Monroe Barclay,	C. E	*Barre*
Fred Thomson Bass,	C. E	*Randolph*
Dean Orris Carr,	C. E	*Georgia Plains*
Harry Guy Clark,	C. E	*Champlain, N. Y.*
*George Henry Clark,	C. E	*Enfield, N. H.*
Ellon Teague Danforth,	C. E	*Tyngsboro, Mass.*
Irving Clendenen Ellis,	C. E	*Northfield*
*William Horace Flint,	C. E	*Williamstown*
Charles Hobart Grant,	C. E	*So. Ryegate*
Carl Danforth Hazen,	C. E	*Worcester, Mass.*
Joseph Theron Lance,	Ch	*Cabot*
Percy Putnam Learned,	C. E	*Chester*
Norbert Vincent Mullin,	C. E	*Worcester, Mass.*
*George Dana Murch,	C. E	*Lyndonville*
Leonard Melvin Newton,	C. E	*Olcott*
†Albert Charles Patterson,	C. E	*Putney*
*Jesse Albert Pillsbury,	C. E	*Essex*
William Steele Pingree,	S. & L	*Hartford*
Jeffers Foster Richardson,	C. E	*Paterson, N. J.*
William Everett Robertson,	Ch	*St. Albans*
*John Theodore Smith,	C. E	*Russell, N. Y.*
James Macomber Wardner,	C. E	*Rainbow, N. Y.*
George Frank Waugh,	C. E	*Lowell, Mass.*
Charles Edward Wheatley,	C. E	*Montpelier*

* **Conditioned.**

† **Absent, sick.**

FALL TERM, 1897.

September 23, Thursday — Term began.
December 20-23 — Term Examinations.
December 23, Thursday — Term ends at 1

WINTER TERM, 1898.

January 6, Thursday — Term begins at R
February 22, Tuesday — Washington's Bi
March 21-24 — Term Examinations.
March 24, Thursday — Term ends at noor

SPRING TERM, 1898.

April 7, Thursday — Term begins at Retr
May 9, Monday — Seniors will present gr
May 30, Monday — Memorial Day.
June 1, Wednesday — Senior Examinatior
June 13-20 — Annual Encampment.
June 22-25 — Final Examinations.
June 26 — Baccalaureate Sermon.
June 27 — Austin Rifle Competition.
June 28, Tuesday — Prize Speaking.
June 29, Wednesday — Annual Meeting of
Alumni Exercises.
June 30, Thursday — Commencement Day
July 1, Friday — Entrance Examinations.

FALL TERM, 1898.

RECENT GRADUATES.

1890.

C. F. Parker, Civil Engineer, Thompson & Co.....*Revere, Mass.*
C. E. Collins, City Engineer .....*St. Albans, Vt.*
S. B. Adams, Boiler Inspector.....*Boston, Mass.*
D. W. Lewis, Clerk .....*Boston & Maine Railway*
Herman Dressel Jr., Prin. High School .....*Springfield, Vt.*
H. J. Dane, Pharmacist .....*Northfield, Vt.*
I. R. Mower, representing Parke, Davis & Co., in.....*Chicago, Ill.*
J. H. Judkins, Physician .....*Northfield, Vt.*

1891.

George Franklin Abbott, Civil Engineer, West End Street Railway, *Boston.*
The Rev. Alfred Frederick Booth .....*Morrisville, Vt.*
Edward Aiken Shuttleworth.....*2d Lieut. 11th Inft., U. S. A.*
William Hibbard Sprague, Merchant .....*East Brookfield, Vt.*
Harry Gordon Woodruff, Collection Clerk, Amoskeag National Bank, *Manchester, N. H.*
Ethan Allen Shaw, Instructor.....*Norwich University*
Carl Gilman Dole, B. & M. R. R.....*Woodsville, N. H.*
Heber Calvin Cady, Assistant Cashier.....*Northfield Savings Bank*
Burton Wiley Farnham, Civil Engineer in City Engineer's Office, *Lowell, Mass.*
Fred Miner Goodhue.....*Lowell, Mass.*
Percy Gates Smith, City Engineer's Office.....*Worcester, Mass.*
Clarence Bonnett Riggs, Civil Engineer.....*Middlebury, Vt.*

E. H. Ryan, Civil Engineer.....
D. C. Webb, Civil Engineer.....
B. W. Gleason, Real Estate Agency.....

1893.

G. L. Andrews, Pharmacist.....
E. C. Bennett, with B. & R. R. R.....
E. W. Gaynor, Dental College.....
F. A. Gokey, in business at.....
F. D. Holbrook, Civil Engineer.....
W. E. Hurlbut, Law Student.....
F. A. Manuel, Manufacturer.....
H. N. Mattison, Cashier National Bank.....
O. L. Pease, Pharmacist.....

1894.

L. B. Clogston, Draftsman.....
E. W. Gibson, Principal of Graded School.....
H. L. Hinman, in business at.....
H. C. Holden, Civil Engineer, with Thompson &
L. C. Hulburd, Topographical Engineer.....
R. U. Smith, Law Student.....

1895.

Edgar Fletcher Carruthers, Paper Mill ..... *Brattleboro, Vt.*
Charles Horace Davis, Engineer, St. R. R. Co. ..... *Leicester, Mass.*
Fred Carnot Davis ..... *Randolph, Vt.*
Frank James Donahue, Civil Engineer ..... *Cambridge, Mass.*
Ray Storrs Dowe ..... *Railway Mail Service.*
Walter George Huntley, Dental College ..... *Baltimore, Md.*
Philo Remington Hoefler ..... *Assistant, Northfield National Bank.*
Harry Chester Moseley, Electrical Engineer ..... *Boston.*
Bert Henry Prior, City Engineer's Office ..... *Worcester, Mass.*
Michael John Ryan, City Engineer's Office ..... *Cambridge, Mass.*
Fred Barnes Thomas, Law Student ..... *Montpelier, Vt.*
Samuel Adrian Thomas, Civil Engineer ..... *New York City.*
Dean Clyde Warren, City Engineer's Office ..... *Cambridge, Mass.*

1896.

Arthur Gilbert Andrews, Law Student ..... *Ann Arbor, Mich.*
James Leland Averill, Thayer School ..... *Dartmouth, N. H.*
George Horace Briggs ..... *Northfield*
Charles Sargent Carleton, Paper Mill ..... *Cumberland Mills, Me.*
Herbert Sawyer Clark ..... *Northfield*
John Leslie Collins, City Engineer's Office ..... *Cambridge, Mass.*
Harry Ray Dole, in business ..... *Northfield*
Phil Sheridan Howes, School Teacher ..... *Northfield*
Edward Michael McCarty ..... *Windsor*
Charles Albert Plumley, Principal High School ..... *Northfield*
Carroll John Scribner, Civil Engineer ..... *with C. V. R. R.*
Leon Anson Skinner, in business ..... *So. Royalton*
Herbert Eugene Caswell, School Teacher ..... *St. Albans Bay*

Winfred Ballard Carr, with Metropolitan Park Commission ..... *Bost*
Henry Vail Dunham ..... *Worcester, Ma*
William Arba Ellis, Historian, N. U ..... *Northfi*
William Clarence Spafford, with *The Banner* ..... *Benningt*
Donald William Sutherland, Civil Engineer ..... *Lenoxville, P.*
Charles Ernest Walker ..... *Cumberland Mills, M*

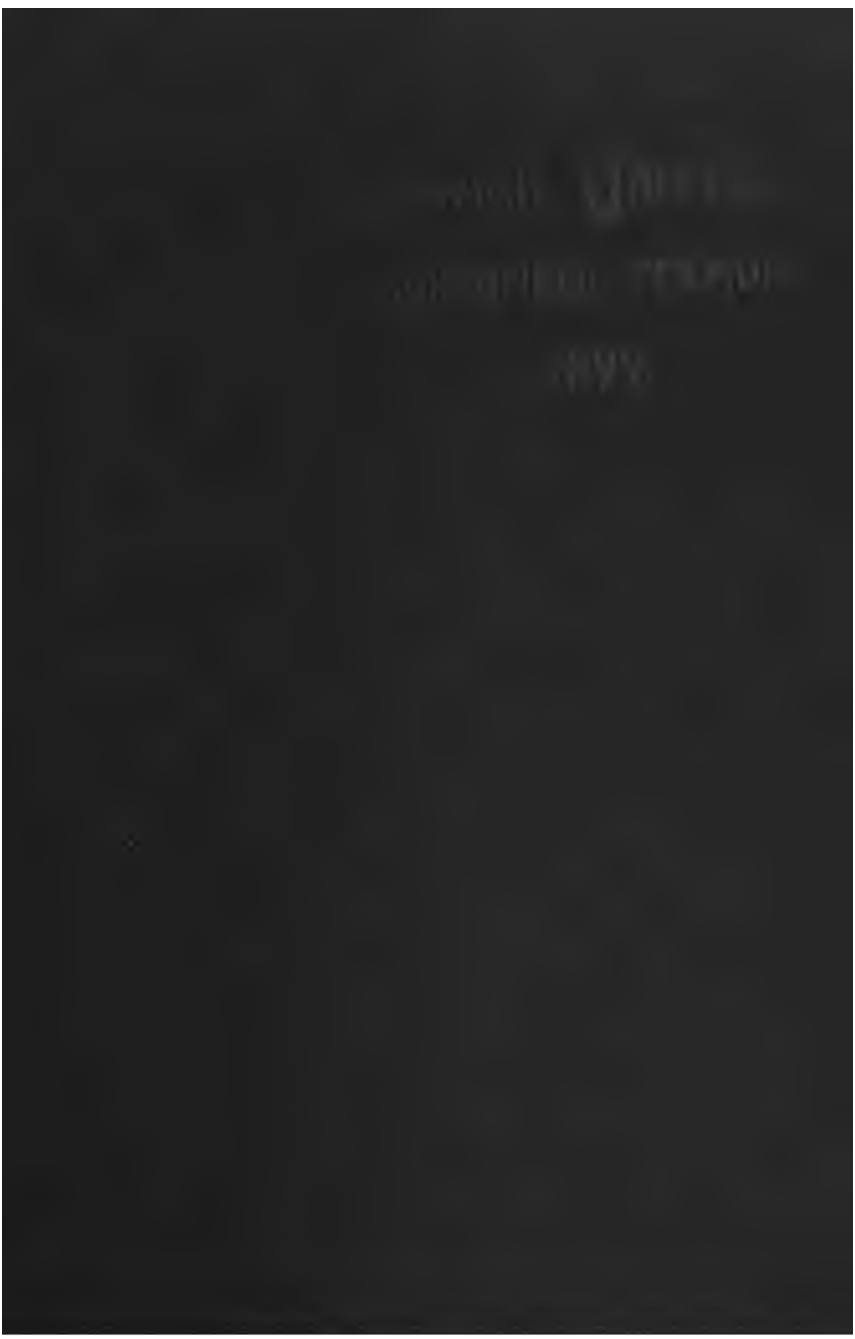
N. B. — For graduates before 1890, see Alumni Catalogue.

Partial list of Roads upon which Graduates and Past Cadets of Norwich University have been employed as Consulting, Constructing, Chief, Assistant or Division Engineers :

Albany Northern,
American Central,
Arequipa & Puno, (Peru),
Auburn & Syracuse,
Baltimore & Ohio,
Boston & Lowell,
Boston & Providence,
Boston & Worcester,
Burlington & Missouri,
Camden & Atlantic,
Cincinnati Western,
California & Texas,
Cayuga & Susquehanna,
Central Vermont,
Central Military Tract,
Chicago & Alton,
Chicago & Danville,
Chicago & Northwestern,
Cincinnati, Peru & Chicago,
Cleveland & Pittsburgh,
Columbus, Piqua & Indiana,
Connecticut & Passumpsic,
Connecticut Valley,
Corpus Christi, San Diego & Rio Grande,
Dallas & Wichita,
Delaware & Western,
Denver & Gulf,
Denver Pacific,
Dever, Texas & Fort Worth,
Des Moines & Northern,
Des Moines & Northwestern,
Drummond Co., (Quebec),
Elkhorn,
Everett & Monte Cristo,
Fitchburg,
Fort Wayne & Chicago,
Fort Worth & Denver City,
Gilman, Clinton & Springfield,
Grand Rapids & Lake Shore,
Hartford & Springfield,
Hoosac Tunnel & Saratoga,
Housatonic,
Houston & Texas Central,
Houston, East & West Texas,
Hudson River,
Huntingdon & Broad Top,
Illinois & Wisconsin,
Illinois Central,
Indianapolis, Peru & Chicago,
International & Great Northern, (Texas),
Ionia & Lansing,
Jeffersonville,
Junction City & Fort Kearney,
Kansas Central,
Kansas City & Southern,
Kansas City, Emporia & Southern,
Kansas City, Memphis & Mobile,
Kansas City (Street Railway),
Kansas Pacific,
Lackawana & Bloomsburg,
Lake Ontario Shore,
Leavenworth, Lawrence & Fort Gibson,
Lee & Hudson,
Mahanoy & Susquehanna,
Manchester & Keene,
Mansfield, Coldwater & Lake Michigan,
Marietta & Cincinnati,
Marion & McPherson,
Massachusetts Central,
Memphis & Charleston,
Memphis & La Grange,
Mexican International,

Mexican National,
Mexican Southern,
Milwaukee & Lake Winnebago,
Milwaukee & Mississippi,
Milwaukee & Watertown,
Minneapolis & Duluth,
Mineral Belt,
Minneapolis & North Western,
Minneapolis & St. Cloud,
Mississippi & Missouri,
Missouri, Kansas & Texas,
Mobile & Ohio,
Monterey & Mexican Gulf,
Montpelier & Wells River,
Mount Washington,
Nashville & Decatur,
New Jersey Central,
New Orleans & Pacific,
Oregon Short Line,
Penn Yan, Keuka Park & Branchport,
Peoria Branch, Rock Island,
Peoria & Burlington,
Peoria & Oquawka,
Pittsburgh, Fort Wayne & Chicago,
Pittsfield & North Adams,
Plattsburgh & Montreal,
Pueblo & Arkansas Valley,
Pueblo & Salt Lake,
Racine & Mississippi,
Rock River Valley Union,
Rutland,
Rutland & Burlington,
St. Croix & Lake Superior,
St. Louis, Kansas City & Northern,
St. Paul & Chicago,
San Antonio & Mexican Gulf,
San Francisco, (Missouri),
Saratoga & Whitehall,
Sedalia, Warsaw & Southern,
Shepaug Valley,
Southern Minnesota,
Sugar River,
Sullivan,
Sunbury & Erie,
Suncook Valley,
Texas Pacific,
Toledo, Oscaloosa & Western,
Transia, (Mexico),
Union Pacific,
Utica & Oswego,
Utica & Schenectady,
Vermont & Canada,
Vermont Central,
Vicksburg & Meridian,
Wabash,
Waterbury & Stowe,
West End, (Boston),
Whitehall & Plattsburg,
Wilmington & Reading,

and some 50,000 miles of preliminary surveys in addition.



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CATALOGUE

OF

By act of the Legislature approved November 30, 1898, Norwich University is recognized as "THE MILITARY COLLEGE OF THE STATE OF VERMONT," and in accordance with another act approved November 26, 1898, the following Board of Visitors has been appointed for the term ending December 1, 1900:

HON. J. M. FOSS, of St. Albans.
HON. F. G. BUTTERFIELD, of Derby.
HON. F. E. STEELE, of Stockbridge.
HON. H. W. MARVIN, of Alburgh.
HON. MASON S. STONE,
State Superintendent of Education, *Ex-Officio*.

EIGHTIETH ACADEMIC YEAR.

ST. ALBANS, VT.:
Messenger Company Press.
1898.

7 MAY 1906
NIV

D 177.51

CATALOGUE

OF

NORWICH UNIVERSITY,

MILITARY, SCIENTIFIC AND CLASSICAL,

NORTHFIELD, VT.

1899.

EIGHTIETH ACADEMIC YEAR.

ST. ALBANS, VT.:
Messenger Company Press.
1898.

ECH 7 MAY 1906
UNIV

CALENDAR.

FALL TERM, 1898.

September 22, Thursday—Term began.
December 19-22,—Term Examinations.
December 22, Thursday—Term ends at noon.

WINTER TERM, 1899.

January 5, Thursday—Term begins at Retreat.
February 22, Wednesday—Washington's Birthday.
March 20-23,—Term Examinations.
March 23, Thursday—Term ends at noon.

SPRING TERM, 1899.

April 6, Thursday—Term begins at Retreat.
May 8, Monday—Seniors will present graduation theses.
May 30, Tuesday—Memorial Day.
June 1, Thursday—Senior Examinations.
June 12-16,—Final Examinations.
June 17-24,—Annual Encampment.
June 25,—Baccalaureate Sermon.
June 26, Monday—Austin Rifle Competition.
June 27, Tuesday—Prize Speaking.
June 28, Wednesday—Annual Meeting of Trustees, Class Day, Alumni Exercises.
June 29, Thursday—Commencement Day.
June 30, Friday—Entrance Examinations.

FALL TERM, 1899.

September 21, Thursday—Entrance Examinations, 10:30 a.m.;

CORPORATION.

President,
THE PRESIDENT OF THE UNIVERSITY.

Vice-President,
CHARLES DOLE, M. A.

Secretary,
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* *Professor of Military Science and Tactics.*

FRANK A. BALCH, B. A.,
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* Vacant by reason of the War with Spain.

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(Of Naval War College, Newport, Rhode Island),
International Law.

WILLIAM A. SHAW, M. S.,
Observer, U. S. Weather Bureau; Meteorology.

JOHN B. JOHNSON,
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HERBERT R. ROBERTS,

NORWICH UNIVERSITY

Was founded at Norwich, Vermont, in 1819, by Captain Alden Partridge, and was known as the American Literary, Scientific and Military Academy. It retained the name until November 6, 1834, when a charter of incorporation was granted it by the State of Vermont, under the name of NORWICH UNIVERSITY, which thus became the *first* Scientific and Classical, as well as the first Military, Collegiate Institution in the United States. Its success was immediate, and every State in the Union had, in its early days, representatives among its students.

In March, 1866, the buildings at Norwich were destroyed by fire, and the University was removed to Northfield, Vt., where the citizens had offered fine grounds and commodious barracks.

It is a characteristic and peculiar feature of the institution that, in addition to the usual collegiate courses, the charter requires "a course of military instruction, both theoretical and practical." For this reason the discipline is, of necessity, military in form and principle, being modeled after that of the National Military Academy at West Point, of which Captain Partridge was, at one time, the Superintendent: and from its foundation to the present time it has held the distinction of being the foremost military institution in the land, West Point and Annapolis alone excepted. Her sons have done yeoman service in both Army and Navy; from her founder, Captain Partridge, and her second President, Truman B. Ransom, who resigned his chair to lead the 9th New England in the Mexican War (falling at the head of his regiment at the assault of Chapultepec, in September, 1847), through a long line of distinguished men in the Civil War, until to-day, when her graduates are still to be found in both the services.

The late General William Tecumseh Sherman said of the University: "This military school at one time almost rivaled the National Academy at West Point, and there many a man, who afterward became famous in the Mexican and Civil Wars, first drank in the inspirations of patriotism and learned the lessons of the art of war."

To the discipline and instruction received at this institution, is due the reputation acquired by many of the New England (and other) regiments; and the "Green Mountain Boys" (whose record in the Civil War is second to none) owe their success and renown, largely to the training received within her halls. The Honor Roll of the Civil War contains the names of many generals (among them those of G. P. Buell, Burton, G. M. Dodge, Lander, Milroy, T. E. G. Ransom, Truman Seymour, Seth Williams, P. V. Hagner, late Chief of Ordnance U. S. A.), a large number of colonels and other field officers, also of line and non-commissioned officers, together with Rear Admirals Paulding and Carpenter, Captains Ward and Colvocoresses, Lieut.-Commander Dewey, and many others of the Navy.

More than fifty of her Past Cadets served in the late war with Spain, chief among them being Rear Admiral Dewey, the victor of Manila, Brig.-Gen'l Williston, Col. Edmund Rice (of whom General Miles has said that "he had the best regiment in the Army of the Potomac"), and others of less rank in both branches of the service.

It has always been, and still is, the highest endeavor of the Trustees and the Faculty to maintain in every respect the high military character of the University, bearing in mind the fact that the aim of any scholastic institution should be not merely to graduate scholars, but to make men. To this end special attention is paid, not only to drill in the manual of arms, the execution of tactical movements and the necessary routine of a post, but also to the development of honor, truth, candor, self-respect and loyalty. While the discipline is strict, it is not severe, the government being

largely by privileges rather than by restrictions; the student being taught to do the right thing at the right time and in the right way. That discipline of this sort fits men not merely for military, but also for civil, life is shown by the success of Past Cadets in the clerical, legal, medical, engineering, journalistic and other professions. Some of the best of our railway engineering* (such as that of the Union Pacific, Northern Pacific, Denver & Rio Grande, Mexican Central, Northwestern, Great Northern, and many of the roads in Central and South America) has been done in whole or in large part, by men who have been students at this institution, and many of her graduates are to be found to-day in places of trust and responsibility.

The State of Vermont has recognized the University by making her Corps of Cadets a part of the State National Guard, in which each member is regularly enlisted. By this, and by granting her free scholarships, the State Government places a high valuation upon the institution as a training school for the citizen soldier, and attests its gratitude for services already rendered. For like reasons, the United States Government has detailed an officer from the active list of the Army for duty as Professor of Military Science and Tactics, and sends an inspecting officer yearly, to note the condition of the discipline and drill.

That these inspectors find a satisfactory state of affairs is shown by their reports.

> The Inspector for 1893 said: "Although the numbers are small, it is due the institution to say that in its military system, discipline and instruction, *it stands at the head of all the colleges in this inspection.*"

> The Inspector for 1896 said: "The appearance, bearing, steadiness and behavior were excellent. * * * I was favorably impressed with the condition of the military department."

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* See pages 53-54.

The Inspector for 1897 said: "An inspector finds himself out of place here, except in so far as his commendation may be of some use. Parents who are in search of some institution where self-control and self-discipline (all-important factors in future success) are made prominent features, and receive special attention in the education, might do well to visit Norwich University.

"The system of discipline inaugurated by Captain Partridge in 1834 is still in force here, and is only modified to suit the higher condition of cultivation of the student. The discipline is still as strong, and the cadet is under a strict military regime every day and every hour that he spends at the University. He is marched to his meals, to prayers, to class-room and to church. He is taught to be neat in his person, regular in habits and methodical in work."

The State Inspector (an officer of the Army detailed for service with the Vermont National Guard), also makes a yearly visit and reports to the Governor. In 1896 this officer said:

"These students are able to execute every movement in infantry drill regulations and, as far as possible without horses, artillery movements, with a correctness and precision not to be expected of any other body of troops in the State."

By her work for nearly three-quarters of a century, Norwich University merits the confidence and generous support of the general public.

ADMISSION Candidates for admission must be at least fifteen years of age and must present satisfactory evidence of good moral character. Application blanks will be furnished by the President when requested. No person will be admitted who is less than five feet in height, or who is deformed, or afflicted with any disease or infirmity which would render him unfit for military duty, or who has at the time of presenting himself any disorder of an infectious or immoral character.

After matriculation and before enlistment, a physical examination is held by the surgeon, and this examination is

repeated at intervals throughout the course. As a proof of the value of the physical exercise afforded by the military training, it may be stated that the freshman class of 1896 showed an average increase in weight of 6.69 pounds; in chest expansion of .71 in.; in girth of thigh of 1.28 in.; in girth of calf of .47 in.; in girth of arm of .41 in.; and in girth of fore-arm of .37 in.; in no case was there a decrease.

All candidates are examined in the following subjects:

MATHEMATICS.

Arithmetic; Algebra to Quadratics; Geometry; first four books, Davies' Legendre, or an equivalent.

ENGLISH LANGUAGE.

Grammar; Composition, with special attention to punctuation and the use of capitals.

GEOGRAPHY.

Physical and Political Geography.

HISTORY.

History of the United States.

Those desiring to take the course in

SCIENCE AND LITERATURE,

are examined also in

LATIN:

Cæsar's "Commentaries," four books, or Sallust's "Cataline;" Virgil's "Æneid," six books; Cicero, four orations.

Those desiring to take the course in

ARTS,

in addition to all the above, are examined in

GREEK:

Xenophon's "Anabasis," four books, or one hundred pages Goodwin's Greek Reader; Homer's "Iliad," two books.

Graduates from approved High Schools or Academies are admitted upon certificates. Candidates for advanced stand-

ing must pass satisfactory examinations in the studies already completed by the class which they propose to enter, as well as in those required for admission. Those, however, from other colleges should bring certificates of honorable dismissal, and marks showing standing. The latter may, on approval by the Faculty, be taken in lieu of examination. No student under suspension or expulsion from any other institution will be received. Students are considered as on probation for eight weeks.

COURSES OF INSTRUCTION.

MILITARY COURSE.

Exercises, Drills or Lectures daily, throughout the four years.

FALL TERM.

Settings up.
Calls.
Manual of Arms.
School of the Company.
Extended Order Drill.
Bayonet Exercise in doors in bad weather.

WINTER TERM.

Manual of the Sword.
Lectures on Military Engineering or Military Science and Art of War for Seniors and Juniors.
Recitations in Drill Regulations for all but Freshmen; in signal code for Freshmen.

SPRING TERM.

Artillery Drill.
Rifle Practice.
Battalion Drill.
Ceremonies.
Signaling.
Lectures on Customs of the Service.
Camping.

The Cadets are at all times under military discipline, and strict observance of military customs is required.

Cadets are detailed as Adjutant, Officer of the Day, Guard, etc., in their turn, are instructed in making out the different kinds of military reports, and are trained in the duties incident to field or garrison

The Cadet Officers are appointed in accordance with their relative academic and military standing.

EXAMINATIONS Are held from time to time in the tactics, orders, duties and customs of military service, in order to insure familiarity with them.

ENCAMPMENT An Encampment of one week is held near the close of the spring term, and the Cadets receive instructions in the details of camp life, together with guard duty. While in camp a general review of all the drills is made to insure familiarity with them. Considerable time is also devoted to attack and defence of camp, and to rifle practice. There is at this time an inspection by the Adjutant-General of the Vermont National Guard, or his assistant.

PRACTICE MARCHES The Encampment may be varied by practice marches about the State. During the encampment, and on the march, the Cadets are at all times under the command of the Commandant, who is responsible for their conduct.

ACADEMIC COURSES.

Four regular courses have been established, as follows:

I. Civil Engineering.
II. Arts.
III. Chemistry.
IV. Science and Literature.

The courses in Civil Engineering and Chemistry have a distinctly practical bearing, and give a thorough training for the technical professions.

The course in Arts embraces the usual classical course with French or German, Physical Science, etc., etc.

The course in Science and Literature is intended for such

as may not wish to pursue a full course in Classics or Mathematics, or one for a distinctly scientific profession.

Each of these courses extends through four years, and is intended to give the student a liberal preparation for the duties of life.

Changes are made in the course in Chemistry to meet the wants of students preparing for Medicine and Pharmacy.

I. THE COURSE IN CIVIL ENGINEERING.

Leading to the degree of Bachelor of Science in Civil Engineering.

NOTE.—**The figures after each subject indicate the number of recitation periods of sixty minutes each per week.**

FRESHMAN YEAR.

FALL TERM.

Algebra 5	Rhetoric 2
French or German 3	Free-hand Drawing 4
Inorganic Chemistry ..... $3\frac{1}{4}$ (text 2, laboratory $1\frac{1}{4}$.)	English 1

WINTER TERM.

Geometry 5	Rhetoric 2
French or German 3	Lettering 2
Inorganic Chemistry ..... $3\frac{1}{4}$ (text 2, laboratory $1\frac{1}{4}$.)	Tinting and Shading 2
	English 1

SPRING TERM.

Trigonometry 5	Rhetoric 2
French or German 3	Mechanical Drawing 4
Inorganic Chemistry ..... $3\frac{1}{4}$ (text 2, laboratory $1\frac{1}{4}$.)	English 1

SOPHOMORE YEAR.

FALL TERM.

Analytical Geometry 3	Descriptive Geometry and Drafting 6
French or German 3	
Mechanics and Heat 3	English 1

WINTER TERM.

Differential Calculus.....3
French or German.....3
Electricity and Magnetism.....3
Descriptive Geometry and Drafting.....6
English.....1

SPRING TERM.

Integral Calculus.....3
Land Surveying, Leveling, and Field Work.....6
(text 2, field work 4.)
French or German.....3
Acoustics and Optics.....3
Detail Drawing, Tracing, Blue Prints.....6
English.....1

JUNIOR YEAR.

FALL TERM.

Mechanics of Engineering—
Statics and Dynamics.....3
Geology.....3
Advanced Surveying—
Topographical, Municipal, and Geodetic.....7
(text 3, field work 4.)
English.....1

WINTER TERM.

Mechanics of Engineering—
Materials.....3
Blowpipe Analysis and Determinative Mineralogy.....2
Qualitative Analysis.....4
Colored and Pen Topography...3
Trusses and Arches.....2
Graphics of Trusses and Arches..3
English.....1

SPRING TERM.

Stone Cutting.....4
(text 2, drafting 2.)
Mechanics of Engineering—
Hydraulics, Retaining Walls, Masonry Dams.....3
Botany.....3
Bridge Stresses.....6
(text 2, drafting 4.)
English.....1

SENIOR YEAR.

FALL TERM.

Commercial Law.....3
Metallurgy.....2
Bridge Designing.....2½
Railroad Engineering (curves, turnouts and practical location of railway.....6
(text 2, field work 4.)
Drawing—
Railroad Maps.....3
English.....1

WINTER TERM.

Constitutional or International Law 3
Hydraulic and Sanitary Engineering 3
Civil Engineering—
Materials of Engineering, Foundations, Canals, Highways 3
Drawing—
Design of Bridges 6
English 1

SPRING TERM.

Spherical Astronomy—
Determination of Time, Latitude, etc. 3
Contracts and Specifications 2
Political Economy 3
Highway Engineering 2
Railroad Engineering 3
Thesis .....

II. THE COURSE IN ARTS.

Leading to the degree of Bachelor of Arts.

FRESHMAN YEAR.

FALL TERM.

Algebra 5
Memorabilia and Greek Prose ... 3
Livy and Latin Prose 3
Rhetoric 2
Inorganic Chemistry 3¼
(text 2, laboratory 1¼.)
English 1

WINTER TERM.

Geometry 5
Herodotus 3
Tacitus—Germania 3
Rhetoric 2
Inorganic Chemistry 3¼
(text 2, laboratory 1¼.)
Lettering 2
Tinting and Shading 2
English 1

SPRING TERM.

Trigonometry 5
Homer's Odyssey 3
Cicero—
De Senectute, De Amicitia 3
Rhetoric 2
English 1
Inorganic Chemistry 3¼
(text 2, laboratory 1¼.)

SOPHOMORE YEAR.

FALL TERM.

Sophocles.....2	Ancient History.....2
Juvenal's Satires or Ovid.....2	English Literature.....2
Mechanics and Heat.....3	English.....1

WINTER TERM.

Demosthenes.....2½	English Literature.....2
Horace—Odes and Epodes.....2	Mediæval History.....2
Electricity and Magnetism.....3	English.....1

SPRING TERM.

Æschylus.....2½	Modern History.....2
Horace—Satires and Epistles....2	Land Surveying.....6
Acoustics and Optics.....3	(text 2, field work 4.)
English Literature.....2	English.....1

JUNIOR YEAR.

FALL TERM.

Demosthenes.....2	French or German.....3
Pliny.....2	English Literature.....2
Geology.....3	English.....1

WINTER TERM.

Plato.....2	English Literature.....2
Plautus.....2	State.....3
French or German.....3	English.....1

SPRING TERM.

Greek Syntax.....2	English Literature.....2
Latin Syntax.....2	United States History.....3
French or German.....3	English.....1

SENIOR YEAR.

FALL TERM.

Analytical Chemistry.....6	Logic.....3
French or German.....3	English.....1
Commercial Law.....3	

FRESHMAN YEAR.

FALL TERM.

Algebra	5	Rhetoric	2
French, German or Latin*	3	Free-hand Drawing	4
Inorganic Chemistry (text 2, laboratory 1½)	3½	English	1

WINTER TERM.

Geometry	5	Rhetoric	2
French, German or Latin	3	Lettering	2
Inorganic Chemistry (text 2, laboratory 1½)	3½	Tinting and Shading	2
		English	1

SPRING TERM.

Trigonometry	5	Rhetoric	2
French, German or Latin	3	Mechanical Drawing	4
Inorganic Chemistry (text 2, laboratory 1½)	3½	English	1

SOPHOMORE YEAR.

FALL TERM.

French, German or Latin	3	Qualitative Analysis	10
Mechanics and Heat	3	English	1

* Requires the same preparation as for the Course in Science and Literature.

WINTER TERM.

French, German or Latin.....3
Electricity and Magnetism.....3
Blowpipe Analysis.....6
Qualitative Analysis.....6
English 1

SPRING TERM.

French, German or Latin.....3
Acoustics and Optics.....3
Qualitative Analysis.....10
Quantitative Relations.....3
English 1

JUNIOR YEAR.

FALL TERM.

Geology..... 3
Organic Chemistry..... 2
Gravimetric Analysis.....10
Zoölogy.....2
English Literature.....2
English 1

WINTER TERM.

Organic Chemistry 2
Gravimetric Analysis.....12
English Literature.....2
English 1

SPRING TERM.

English Literature..... 2
Organic Chemistry..... 2
Volumetric Analysis.....10
Botany.....3
English 1

SENIOR YEAR.

FALL TERM.

Commercial Law.....3
Metallurgy 2
Toxicology 6
Medical Chemistry.....6
English 1

WINTER TERM.

Constitutional Law 3
International Law.....3
Food Analysis.....12
English 1

SPRING TERM.

Political Economy 3
Water Analysis.....10
Thesis 5

IV. THE COURSE IN SCIENCE AND LITERATURE.

Leading to the degree of Bachelor of Science.

FRESHMAN YEAR.

FALL TERM.

Algebra	5	Rhetoric	2
Livy and Latin Prose	3	Free-hand Drawing	4
Inorganic Chemistry (text 2, laboratory 1¼.)	3¼	English	1

WINTER TERM.

Geometry	5	Rhetoric	2
Horace—Odes and Epodes	3	Lettering	2
Inorganic Chemistry (text 2, laboratory 1¼.)	3¼	Tinting and Shading	2
		English	1

SPRING TERM.

Trigonometry	5	Rhetoric	2
Horace—Satires and Epistles	3	Mechanical Drawing	4
Inorganic Chemistry (text 2, laboratory 1¼.)	3¼	English	1

SOPHOMORE YEAR.

FALL TERM.

Analytical Geometry	3	Ancient History	2
Juvenal's Satires	2	English Literature	2
Mechanics and Heat	3	English	1

WINTER TERM.

Tacitus	2	Mediæval History	2
Electricity and Magnetism	3	English Literature	2
Calculus	3	English	1

SPRING TERM.

Cicero's Select Letters	2	English Literature	2
Acoustics and Optics	3	Modern History	2
Analytical Chemistry	6	English	1

JUNIOR YEAR.

FALL TERM.

French or German.....3	English History 3
Geology.....3	English Literature.....2
Zoölogy.....2	English 1

WINTER TERM.

French or German.....3	English Literature.....2
Analytical Chemistry 6	State.....3
Blowpipe Analysis.....2	English 1

SPRING TERM.

French or German.....3	Botany.....3
English Literature.....2	English 1
United States History.....3	

SENIOR YEAR.

FALL TERM.

French or German.....3	Psychology.....3
Commercial Law 3	English 1
Metallurgy 2	

WINTER TERM.

French or German.....3	Logic 3
International Law.....3	English 1
Constitutional Law.....3	

SPRING TERM.

French or German.....3	Ethics 2
Political Economy 3	Thesis 5
Astronomy 3	

Lectures on Meteorology to all Seniors during winter term.

TEXT BOOKS AND BOOKS OF REFERENCE.

MATHEMATICS.

Astronomy.....Young
Algebra.....Wells' University
Analytical Geometry.....Loomis
Calculus.....Taylor
Geometry.....Davies' Legendre
Mechanics.....Church
Trigonometry.....Davies
Descriptive Geometry.....Church

ENGINEERING.

Surveying.....Johnson
Railroad Surveying.....Carhart
Bridge Stresses.....Merriman
Civil Engineering...Panton and Trautwine
Specifications.....Johnson
Hydraulic Engineering..Fanning
Sanitary Engineering.....Adams
Stereotomy.....Mahan
Stresses in Framed Structures.....Johnson and Bryant
Wellington's Earth Work Computation.
Foundations.....Patton
Bridge Designing.....Merriman
Hydraulics.....Merriman

SCIENCES.

Botany—Gray's Manual and Lessons.
Chemistry—Inorganic...Shepard
Chemistry, Analysis, Qualitative, Elliot, Fresenius.
Volumetric Analysis.....Sutton
Analysis, Quantitative, Evans, Fresenius.
Organic Industrial Chemistry, Sadtler.
Blowpipe, Plimpton's Qualitative, Plattner's Qualitative and Quantitative, by Cornwall.
Metallurgy, and Assaying, Hiorn's Text-Book of Elementary Metallurgy, Hiorn's Practical Metallurgy and Assaying.
Medical Chemistry, Ralfe's Clinical Chemistry.
Organic.....Remsen
Physics—Principles of Physics, Gage.
Zoölogy.....Packard
Practical Zoölogy..Marshall and Hurst.
Geology.....Le Conte's Compend
Mineralogy, Dana's Manual, and Foye's Tables.
Food Adulteration and its Detection, Battershall, Blyth.
Toxicology.....Blyth

MODERN LANGUAGES.

French..Whitney's French Grammar.
Super's French Reader.
German...Joynes'-Meissner German Grammar.
Joynes' German Reader.

HISTORY, POLITICAL SCIENCE AND LAW.

History—Ancient, Mediæval and Modern ..... Myers
English ..... Montgomery
Political Economy. ..... Walker
Psychology ..... James
Logic ..... Davis
Ethics ..... Muirhead
International Law ..... Woolsey
Constitutional Law ..... Cooley
Commercial Law ..... Townshend
The State ..... Wilson
Johnson's American Politics.

ENGLISH.

Rhetoric—Hill's Principles of Practical Rhetoric.
Genung's Practical Rhetoric.
Elocution—Clark's Notes on Reading.
Bacon's Manual of Gesture.
English Literature ..... Arnold.

MILITARY SCIENCE.

Drill Regulations for Infantry and Artillery.
Small Arms Firing Regulations.
Wagner's Organization and Tactics.
Wagner's Security and Information.
Batchelor's Fire Discipline.
Winthrop's Military Law.
Manual of Field Engineering.
Also other books and publications which are found suitable for instruction in military work.

DEGREES, ETC.

The candidate for any degree must deposit with the Faculty a satisfactory thesis on some scientific or literary subject connected with his department.

DEGREES OF GRADUATION

The degree of Bachelor of Science in Civil Engineering is conferred upon any student who has completed the course in Civil Engineering.

The degree of Bachelor of Arts is conferred upon any student who has completed the course in Arts.

The degree of Bachelor of Science in Chemistry is conferred upon any student who has completed the course in Chemistry.

The degree of Bachelor of Science is conferred upon any student who has completed the course in Science and Literature.

ADVANCED DEGREES

The Master's degree in Science or Arts is conferred upon graduates of three years' standing, who, having taken the corresponding Bachelor's degree, have during that time been engaged in professional, literary or scientific pursuits, or have pursued a course marked out by the Faculty for two years after graduation, and have passed the requisite examinations.

The degree of Civil Engineer is conferred upon graduates in Civil Engineering of three years' standing, who have pursued the profession of engineering during that time, have passed the requisite examinations, and have presented a satisfactory thesis; or upon graduates who have completed a post-graduate course.

TEACHER'S CERTIFICATES

In accordance with the decision of the Superintendent of Education of the State, the Hon. Mason S. Stone, "Graduates are entitled to a five years' teacher's certificate without examination."

COMMISSIONED OFFICERS

Upon graduation, Cadet Officers receive commissions signed by the President of the University, and by the Adjutant and Inspector-General of the State.

SUBJECTS AND METHODS OF INSTRUCTION.

CIVIL ENGINEERING

The work of the first year in this department is common to all courses. The thorough training of the eye and hand in Free-hand Drawing is of the greatest importance in all subsequent drafting. The course embraces accurate outline drawing, elementary perspective, sketching, object drawing, pencil [illegible] and designing. The effort is made to produce

designers, instead of mere copyists. Practice in lettering, large and small drawings, general orders, etc., also in tinting and shading with the right line pen, and with brush and water-colors, is given in the second term. Neatness of text and rapidity of execution are aimed at. In the third term, dexterity in handling drafting instruments is acquired. Various applications of geometry to drafting, and the orthographic and isometric projections of joints and splices in wood construction are taught. Descriptive Geometry is taught in the fourth and fifth terms, with special reference to its application to shades and shadows, machine construction, stone cutting, and to the design of stone bridges, culverts, spiral stairways, sewer intersections, etc.

The course in bridges begins with the drawing of details, which are measured by students while visiting engineering structures. Thus, while the student acquires facility in drawing, he becomes familiar with the various details of a bridge. An extended course in Bridge Stresses is given in the ninth term, and in the eleventh term the student is given specifications, and required to apply his theoretical knowledge in designing railway and highway bridges of wood, iron and steel, to the minutest details. In Pen Topography and Colored Topography the students use the conventions for map making, and apply them in the maps platted from the land and railroad surveys.

An extended course in Applied Mathematics or Mechanics of Engineering is given, in which engineering problems concerning rigid bodies at rest or in motion, the strength of engineering materials, and the statics and dynamics of liquids and gases, are practically treated.

The Laboratory work of the eighth term, and the Metallurgy of the tenth, enable the student to study the materials of engineering with regard to strength and constituents. Under Hydraulic, Sanitary and Civil Engineering, the design and construction of water supply and distribution systems, sewerage systems, and sewage disposal, and of

canals, tunnels, foundations in water and on land, and river and harbor improvements, are treated.

Six hours of drafting per week are required throughout the course, and while the above subjects are being studied, numerous designs of engineering structures are made in the drafting room. In the Reading Room are placed the best of engineering periodicals, which give descriptions of all new works of special interest, and enable the student to keep up with the latest methods of construction.

In Land Surveying and Levelling, practice in using and adjusting instruments is given, and the most improved methods of map making, dividing up and parting off land, and supplying omissions in old surveys are taught, both in class room and field. The advanced surveying of the seventh term includes Topographical, Geodetic and City Surveying, with field work and practice in the drawing room.

The Highway Engineering of the last term is calculated to teach the student the essential principles of this branch of engineering, which has become so prominent.

In Railroad Surveying the field work consists of preliminary surveying, final location, slope staking, etc. Office work is given in making contour maps of the line, profiles, earthwork calculations, estimates of cost, etc. The lectures on Economic Railway Location enable the student to decide between two or more proposed railway lines, and to reduce expenditures in the operation of lines already built.

In the last term, students are required to make specifications and contracts for engineering projects of their own design. The course given in this term in Astronomy provides the engineer with as much of this subject as his profession requires.

EQUIPMENT

The department has a collection of designs for Free-hand and Perspective Drawing, and for modern houses, cottages, public buildings and architectural details. It has also collections of blue prints of the best modern bridges, including pivot draws,

plate girders, and various types of pin-connected and riveted trusses, as well as of sewer details and sewer constructions.

The students have the use of the best modern instruments for angle and line measurement, including transits, compasses, levels, plane table, sextant, rods, chains, etc., and have much more practical engineering field work than is usually given in schools, with the first-class instruments now used in modern engineering.

MATHEMATICS

In the department of Mathematics, sufficient attention is paid to practical applications to enable students to see the utility of their studies, and to assist them in the scientific professions.

Theory is developed in as careful and complete a manner as possible, in order that the student may receive that mind discipline which is so valuable an equipment for all pursuits, whether technical or general. The clearest and most concise text-books are sought for; abtruse and unprofitable discussions are avoided; original work is encouraged, and students are called on for personal recitations more frequently than in most institutions of similar character.

GEOLOGY AND MINERALOGY

The treatment of Geology consists of text-book work, supplemented by frequent excursions in the field, in which the many interesting features of the region are examined. Colored maps, representing the geological formations of counties or large sections, are required. Mineralogy is taken up in connection with Geology, the student being required to identify minerals by their physical properties. In connection with this work each student is required to make a collection of fifty minerals, which he determines and classifies. To aid him in his work, he is given instructions in Blow-pipe Analysis and Determinative Mineralogy.

HISTORY AND POLITICAL SCIENCE

The course of History affords a connected and comprehensive view of the history of civilization from the earliest times to the present. By investigating the causes which

underlie the world's history, the instruction aims not only to train the memory and develop the reasoning faculties, but to fit men to deal wisely with those practical social questions of the present, upon whose solution the experience of the past throws the most valuable light. Particular attention is given to the constitutional development of England and of the United States.

Political Economy is taught in the Senior year by means of text-books, lectures and informal discussions. A theoretical view of the subject is followed by a practical study of Land and Labor Questions, Socialism, Finance, Public Credit, the Principles of Taxation and Tariffs.

PSYCHOLOGY An examination of the different sources of knowledge, an analysis of the various mental states, and a classification of the faculties, are followed by a study of the relation of psychology to education, for the benefit of those students who may desire to engage in teaching. The laws governing the processes of acquiring and reproducing knowledge, the development of the faculties, together with the ways in which they interact one on another, and the play of motives, furnish the foundation of rational instruction and government, and are of special value to the teacher.

LOGIC Logic is taught by recitations and informal lectures. The objects of this study are to give the student vigorous mental discipline, training in exactness, and certainty in thinking, skill in detecting fallacy, and assistance in all the sciences by directing attention to those points of method in each science, which the cultivator is apt to neglect in his zeal for the subject matter of each.

MODERN LANGUAGES The chief aim of this department is to enable the student to read French and German with ease and fluency. By this method it is intended, not only to familiarize the ear with the spoken language, thus to lay the best ground-work for conversation,

After a thorough course in the essentials of grammar, accompanied with composition, and the reading of easy prose, various selections of prose and poetry from the best authors are read.

Much attention is given to the relation of the languages to English and to each other, especially in the matter of derivative and cognate work.

To enrich the student's English vocabulary, to cultivate his taste for good literature, and to broaden his mental horizon, are further objects of the instruction.

RHETORIC, ENGLISH CRITICISM, ELOCUTION

The instruction in this department aims to deal in the most practical way with the composition and delivery of good English. The work, which is uniform in all courses, is continuous throughout the four years.

In Rhetoric, to which subject is devoted two hours each week during the Freshman year, much of the time is spent in the application of the principles of Rhetoric to the correction of faulty sentences. This instruction is supplemented during the remainder of the course, by lectures on the higher qualities of style, in connection with the essay work. As to punctuation, paragraphing, etc., students are required to present their essays and manuscript orations in proper form for publication.

In English Criticism, while it is sought to eradicate faults of style, especial attention is given to the development of the student's individuality and power of expression. An important feature is the critical examination of English prose masterpieces, which is made in connection with the study of English Literature. Essays and orations are carefully revised, returned to the writers for correction, and afterward read and criticised in class. That the student may learn to study his subject comprehensively, and to arrange its parts logically, instruction is given in the formation of essay outlines.

In Elocution, the chief ends sought are distinct and forci-

ble utterance, just emphasis, and ease and naturalness of expression.

Much stress is laid upon the subject of extempore speaking. Practice is given also in declamations, essays, etc., and the endeavor is made throughout the course to cause the acquirement of that ease and fluency in public speaking which is so important a factor in the various walks of life. Occasionally the whole corps is organized into a deliberative body, assimilated to the Upper House of the State Legislature, cadets in turn being required to introduce and report bills, support or oppose them on the floor, etc., etc.; in this way valuable experience is gained in the practical application of Parliamentary Law.

BOTANY The course in Botany begins in the spring term of the Junior year, and comprises Vegetable Morphology and Physiology, Plant Analysis, and the preparation of Herbaria.

The life history of vegetation is traced from seed through stems and roots, leaves, branches, buds, flowers and fruit, to seed again.

Gray's lessons are used, with lectures and field work. A few of the more difficult orders of Phænogams are studied. Attention is given to the various kinds of parasitic fungi so destructive to crops.

ZOÖLOGY Structural Zoölogy is taught by recitations and by laboratory demonstrations. Dissections and drawings are made of representative species in each group of animals. The purpose of this course is to give the student a definite conception, by means of sense-images, of the characteristic structure of the leading modifications of the Animal Kingdom.

CLASSICS It is the aim of the Classical Department to make the work as thorough as possible, and to give the student a general literary culture. A thorough knowledge of grammatical form is considered necessary, and

especial attention is given during the first year to etymology and syntax, vocabulary and idioms. In this manner not only a thorough knowledge of the language is obtained, but the greatest possible amount of mental discipline is derived. The similarity between the Greek and Latin on the one hand, and the English on the other, is pointed out, and especial study is given to roots from which English words are derived. The course is designed to embrace all the leading classes of composition in Greek and Roman Literature, and to afford accurate historical knowledge of the Greek and Latin characters and customs. Attention is given to right translation, and care is taken that the student translate into good English, that he may thus improve his knowledge of English in the study of the classics.

CHEMISTRY AND PHYSICS

The study of Chemistry is begun by students in all courses, in the Freshman year. It consists during this year of lectures and recitations upon general Inorganic Chemistry, in which the principles of the science are brought out and fully explained. Following this is a description of the properties of elements and compounds, and of the methods used for preparing them. To bring this work more clearly before the student, a large number of experiments are performed before the class, in many of which the students are permitted to assist.

In addition to the recitations, one period a week is devoted to laboratory practice, in which the student performs for himself the experiments given in the section room. The second year's work is intended for those who take the Chemical Course, and consists of daily laboratory practice. The work of this and of the following years is performed by the students themselves, under the direction of the professor and his assistant. Qualitative examinations, and as the student becomes more advanced, quantitative examinations of minerals, commercial products, fertilizers, drugs and medicines are made. For those students desiring to fit themselves for

the study of Medicine and Pharmacy, special instruction is provided in the Chemical Laboratory.

Three hours a week, during the Sophomore year, of all courses, are devoted to the subject of Physics.

From this brief outline it will be seen that the aim in all departments is to teach the practical application of the principles of the text-books, and to give to our graduates that ability to apply theory to practice, which is too often sadly lacking from the ordinary course of instruction.

GENERAL INFORMATION.

SCHOLARSHIPS

Thirty State scholarships, covering tuition in any of the departments, and room rent, are now available.

Young men residing in Vermont, who may be desirous of obtaining a State scholarship, should apply first to the PRESIDENT for information as to whether a vacancy exists in their county. Learning of a vacancy, application for appointment should then be made to one of the county Senators.

In addition to the above, a number of half-scholarships have been created by benevolent friends for the benefit of needy young men who desire to obtain an education.

There are also two Scholarships given by an Alumnus of 1892, and a third one given by another Alumnus.

Information regarding these scholarships can be obtained on application to the PRESIDENT.

EXPENSES

A prominent feature of the University is the very reasonable charges for instruction, and the low expense of living; the charge being only $90 per year for instruction, room rent and incidentals. Students pay for board and laundry at the Mess Hall, $3.25 per week, which makes the whole expense less than the living expense alone

Following is a statement of the expenses:

Tuition, per academic year	$ 65.00
Room rent	15.00
Incidentals.	
Library, Reading-room, Bath, etc., etc.	10.00
Board and laundry, thirty-six weeks	117.00
Total for year	$207.00

Uniform, complete, without overcoat, $23 to $34.

The charge for room rent is based upon the supposition that two students occupy the same room. Rooms are unfurnished. Students bring bed linen, blankets and towels. Articles to be laundried should be plainly marked to ensure return.

A room can be furnished at a cost of from $10 upwards, to each occupant.

Rooms are lighted by electricity and heated by steam, at a cost of $15 to $18, payable with the bill for the Fall Term.

Cadets who are appointed buglers receive $25 per year for their services.

Students are required to pay $10 for the incidentals of the year on the first Friday of the Fall Term.

Bills are rendered early in each term, and are payable within seven days after rendition, failing which suspension from class-room privileges may be enforced.

The diploma fee on graduation is $10.

Students in the Course in Chemistry are required to deposit $10 at the beginning of each term of the Sophomore, Junior and Senior years, the amount not consumed being returned at the end of each term.

In the Engineering course in Qualitative Analysis, $3 is charged in the second term of the Junior year. In the other courses a fee of $5 per term is charged for Qualitative Analysis.

A fee of $3 per term is charged for Determinative Mineralogy.

Mexican National,
Mexican Southern,
Milwaukee & Lake Winnebago,
Milwaukee & Mississippi,
Milwaukee & Watertown,
Minneapolis & Duluth,
Mineral Belt,
Minneapolis & North Western,
Minneapolis & St. Cloud,
Mississippi & Missouri,
Missouri, Kansas & Texas,
Mobile & Ohio,
Monterey & Mexican Gulf,
Montpelier & Wells River,
Mount Washington,
Nashville & Decatur,
New Jersey Central,
New Orleans & Pacific,
Oregon Short Line,
Penn Yan, Keuka Park & Branchport,
Peoria Branch, Rock Island,
Peoria & Burlington,
Peoria & Oquawka,
Pittsburgh, Fort Wayne & Chicago,
Pittsfield & North Adams,
Plattsburgh & Montreal,
Pueblo & Arkansas Valley,
Pueblo & Salt Lake,
Racine & Mississippi,
Rock River Valley Union,
Rutland,
Rutland & Burlington,
St. Croix & Lake Superior,
St. Louis, Kansas City & Northern,
St. Paul & Chicago,
San Antonio & Mexican Gulf,
San Francisco, (Missouri),
Saratoga & Whitehall,
Sedalia, Warsaw & Southern,
Shepaug Valley,
Southern Minnesota,
Sugar River,
Sullivan,
Sunbury & Erie,
Suncook Valley,
Texas Pacific,
Toledo, Oscaloosa & Western,
Transia, (Mexico),
Union Pacific,
Utica & Oswego,
Utica & Schenectady,
Vermont & Canada,
Vermont Central,
Vicksburg & Meridian,
Wabash,
Waterbury & Stowe,
West End, (Boston),
Whitehall & Plattsburg,
Wilmington & Reading,

and some 50,000 miles of preliminary surveys in addition.

ning of the term by the Cadet himself, if of age, or otherwise by his parents or guardians, and adhered to throughout the term. The religious societies of the village are: Congregational, Episcopal, Methodist, Roman Catholic and Universalist. While Cadets are held to a strict observance of the rules for religious exercises, and while all immoralities are carefully guarded against, yet the institution is in every respect non-sectarian.

HONORABLE MENTION. The student having the highest general average in his class for the year, providing such average be at least 90 per cent., receives honorable mention at the public exercises on Commencement Day.

The names of the three students who stand highest in the Military Department are reported to the Adjutant-General of the State and the Secretary of War, and are published in the Army Register of the year following.

THE SHELDON PRIZE SPEAKING. Three prizes of $15, $10, and $5, respectively, established by Mr. N. Lewis Sheldon, M. A. (1884), are given to the three of the ten competitors from the Sophomore and Freshman classes who show the greatest merit in declamation in a contest held during Commencement week. These competitors are chosen at a preliminary contest held early in the spring term, *in which all members of both classes are required to participate*, as a portion of the course in rhetoricals. Prize winners in previous contests are debarred from competing.

THE AUSTIN TROPHY. Mr. Fred T. Austin, M. S. (1888), has established an annual trophy, consisting of three medals, of gold, silver and bronze, respectively, given to the three Cadets making the highest score at target practice, the winners holding them for one year.

THE FACULTY GOLD MEDAL. This medal is bestowed upon the member of the Senior class who has the highest general average from entrance to the close of the winter term of the Senior year.

all deficiencies before the first Saturday of the spring term of his Senior year. The operation of this rule may be suspended by vote of the Faculty in those rare cases which warrant such action.

ATHLETICS. A student is not permitted to take part in any athletic game, either singly or in a team representing the University, with the representatives of any other educational institution outside of Northfield, unless he has been a student in full standing from the beginning of the term in which the game is held, and has a passing standing in studies and deportment. The registered colors of the University are maroon and gold.

LIBRARY AND COLLECTIONS. The Library is very well supplied with works of reference, and in addition contains many works of great value which are not to be found in newer libraries. The mineral collection is ample for the purpose of instruction. Manufacturers, dealers in building materials and others, are requested to send specimens of their products to the Department of Engineering. Specimens in Natural History, Minerals, etc., will be gladly received. Alumni, Past Cadets, Authors and Publishers, are earnestly requested to contribute their publications to the Library.

RESIDENT IN BARRACKS. A member of the Faculty resides in the Barracks with the Cadets, thus insuring a strict observance of Regulations.

LOCATION. Northfield being located on the main line of the Central Vermont Railroad, is easy of access from all directions. The Barracks are in direct telegraphic and telephonic connection with the offices and exchanges in Vermont and elsewhere. There is probably no State that can boast of a more healthful climate than Vermont. Northfield is in the central part of the State, ten miles from the Capital, Montpelier. A popular resort in

summer, it loses none of its healthfulness in winter. The water is pure and clear, and the University and village are well supplied from mountain springs.

REDUCED FARES. The Central Vermont and Rutland Railroads carry students for two cents per mile, on certificates, to be obtained through the President.

ROUTINE OF DUTY.

Reveille in accordance with the Season; Police Call and Inspection of Quarters; Breakfast; Drill; Prayers; Study and Recitation hours; Dinner; Afternoon Roll Call; Study and Recitation hours; Supper; Retreat; Study hours; Taps (Lights out), 10 p.m.

Retreat on Friday, Saturday and Sunday nights at the formation for supper. On Friday and Saturday nights, Taps at 10.30 p.m.

On Friday nights there is release from quarters until 11 p.m. for Seniors, and until 10.30 p.m. for other Cadets; and on Saturday nights the same privileges are granted for attendance at fraternity meetings.

Additional evening privileges are granted to Cadets who earn them by good conduct.

This routine is in effect from Retreat on the first day, until noon of the last day, of each term, with necessary modifications on Saturdays and Sundays; it is suspended from after breakfast until Taps on Thanksgiving Day; and also on Washington's Birthday and Memorial Day (except during the exercises of the day), if they do not fall on Sunday.

Cadets are expected to be in attendance during the whole of each term, unless granted leave of absence for special and weighty reasons. If a Cadet leaves during a term for any cause except continued sickness, no reduction is made in the term bill; in case of sickness, the loss is shared equally by the Cadet and the University.

ASSOCIATE ALUMNI AND PAST CADETS.

By action of the Trustees and in accordance with the amended charter, the Alumni and Past Cadets are entitled to elect one of the Board of Trustees each year. The meetings of the Association are held annually on the day preceding Commencement, at 10 o'clock in the forenoon.

OFFICERS FOR 1898-99.

PRESIDENT,

CHARLES DOLE, '69, *Northfield.*

VICE-PRESIDENTS,

W. A. SHAW, '88, *Northfield.*
R. H. FORD, '91, *St. Albans.*

SECRETARY,

E. A. SHAW, '91, *Northfield.*

TREASURER,

H. C. CADY, '91, *Northfield.*

COMMITTEE ON OBITUARY NOTICES.

H. A. BURT, '73, *Scranton.*
R. H. FORD, '91, *St. Albans.*
W. A. ELLIS, '97, *Warren.*

Members of the Association not present may vote by written ballot at the annual election of Trustees. It is therefore important that each member keep the Secretary informed of his full address, and notify him promptly of any change.

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ASTOR, LENOX AND
TILDEN FOUNDATIONS

CALENDAR.

FALL TERM, 1899.

September 14, Thursday—Term began.
December 11–14—Term Examinations.
December 14, Thursday—Term ends at noon.

WINTER TERM, 1900.

January 4, Thursday—Term begins at Retreat.
February 16–17—Fraternity nights.
February 22, Thursday—Washington's Birthday.
March 19–22—Term Examinations.
March 22, Thursday—Term ends at noon.

SPRING TERM, 1900.

April 5, Thursday—Term begins at Retreat.
May 1, Tuesday—Dewey Day.
May 30, Wednesday—Memorial Day.
June 1, Friday—Senior Examinations.
June 11–14—Final Examinations.
June 15–23—Annual Encampment.
June 24—Baccalaureate Sermon.
June 25, Monday—Austin Rifle Competition.
June 26, Tuesday—Prize Speaking.
June 27, Wednesday—Annual Meeting of Trustees, Class Day, Alumni Exercises.
June 28, Thursday—Commencement Day.
June 29, Friday—Entrance Examinations.

FALL TERM, 1900.

September 13, Thursday—Entrance Examinations, 10:30 a. m.; Term begins at Retreat.
December 10–13—Term Examinations.
December 13, Thursday—Term ends at noon.

NEW YORK ALUMNI ASSOCIATION.

ANNUAL REUNION IN NEW YORK CITY.

OFFICERS FOR 1899.

PRESIDENT,

GRENVILLE M. DODGE, '53.

VICE-PRESIDENTS,

CYRUS H. FAY, '37.
CLAYTON E. RICH, '63.
WM. R. MEAD, '64.
WILLIAM M. RUMBAUGH, '76.

SECRETARY AND TREASURER,

ROBERT L. IRISH, '89, *443 Myrtle Avenue, Brooklyn, N. Y.*

Preacher of the Baccalaureate Sermon, THE REV. ALEXANDER R. MERRIAM, Theological Seminary, *Hartford, Conn.*

Orator, THE REV. EDWARD RANDALL, *Poultney, Vermont.*

DEGREES CONFERRED.

GRADUATION.—*Bachelor of Arts* - - EDWIN BOOTH,
GEORGE HAROLD ELLIS.

Bachelor of Science:

(IN CHEMISTRY) PAUL ADDISON DINSMOOR.

(IN CIVIL ENGINEERING) LEWIS CHARLES BUMP,
JAMES WILBUR COOK,
FRANK WINSLOW DENISON,
CHARLES EDWARD DUGGAN,
LEONARD JOEL PARKER,
GEORGE EVERETT TALBOT,
ARTHUR ELLSWORTH WINSLOW.

NOW FOR THEN.—*Bachelor of Arts:* EDWARD M. BROWN of '44,
CHARLES MARSEILLES of '68.

Bachelor of Science: GEORGE DEWEY of '55,
ARBA NELSON WATERMAN of '56,
HENRY P. HERSEY of '85.

IN COURSE.—*Master of Arts* - - - BERNARD SHIPP, '28,
ISAAC T. SMITH, '30,
EDWARD M. BROWN, '44,
GEORGE P. COLVOCORESSES, '67,
CHARLES MARSEILLES, '68,
WALTER DOLE, '70,
MYRON L. CHANDLER, '85,
CHARLES W. PIERCE, '92.

Master of Science - - ARBE N. WATERMAN, '56,
FRED. R. BELKNAP, '85,
ROBERT L. IRISH, '89,
AURIN R. SHAW, '89,
WALTER E. TERRILL, '89,
EDWARD W. GAYNOR, '93,
WALTER G. HUNTLEY, '95,
PHILO R. HOEFLER, '95,
FRED. B. THOMAS, '95.

Civil Engineer - - - ROBERT S. LITTLE, '50,
J. FRED. AINSWORTH, '53,
WILLIAM H. WENTWORTH, '68,
BURTON W. FARNHAM, '91.

HONORARY.—*Master of Military Science:*
REAR ADMIRAL GEORGE DEWEY, U. S. NAVY, '55.

Doctor of Laws: EX-GOV. SAMUEL E. PINGREE (M. A.)
JOHN V. N. STANDISH, '47 (Ph. D.)

HONOR LIST.

Valedictorian and Senior Gold Medalist,

PAUL ADDISON DINSMOOR.

Salutatorian,

ARTHUR ELLSWORTH WINSLOW.

Commencement Speakers,

GEORGE HAROLD ELLIS,

CHARLES EDWARD DUGGAN.

Honorable Mention,

PAUL ADDISON DINSMOOR, '98,

JOHN POOL MOSELEY, '99,

BERT FRANK ALLEN, } '00.
HAROLD SAMUEL RICHMOND, }

Reported to the War Department as Highest in Military Standing

ARTHUR ELLSWORTH WINSLOW,

PAUL ADDISON DINSMOOR,

FRANK WINSLOW DENISON.

Winners of the Sheldon Prize Speaking Contest,

WILLIAM STEELE PINGREE, '01,

BERT FRANK ALLEN, '00,

CHARLES EDWARD WHEATLEY, '01.

Winners of the Austin Trophy,

Gold Medal, HEZEKIAH KIBBE BROOKS, '99,
Silver Medal, RALPH WALES DUNSMOOR, '00,
Bronze Medal, DOUGLAS MONROE BARCLAY, '01.

Winner of the Thomas Gold Medal,

JOHN POOL MOSELEY, '99.

Winner of the Shuttleworth Sword,

CHARLES HORACE EATON, '99.

Winners of the President's Medals for Freshman Class.

General Average, JEFFERS FOSTER RICHARDSON,
Military Standing, CHARLES EDWARD WHEATLEY,
Academic Standing, HARRY GUY CLARK.

COMMANDER, U. S. NAVY (RETIRED),
President of the University.

JOHN B. JOHNSON, M. A., C. E.,
Professor of Mathematics and Civil Engineering.
With the rank of Major.

CHARLES C. BRILL, M. A., *Professor of Chemistry.*
With the rank of Major.

HERBERT R. ROBERTS, M. A.,
Professor of Latin, Greek and English.
Secretary of the Faculty.
With the rank of Captain.)

JOHN POOL MOSELEY, Captain V. N. G.
Acting Professor of Military Science and Tactics.

FRANK A. BALCH, B. A.,
Professor of History and Modern Languages.
With the rank of First Lieutenant.)

ETHAN ALLEN SHAW, C. E., M. A.,
Professor of Physics and Drawing.
With the rank of First Lieutenant.)
Professor of Field Engineering.
With the rank of First Lieutenant.)

LECTURERS.

FRANK PLUMLEY, M. A.,
Constitutional and Commercial Law and Social Science.

MAJOR-GENERAL OLIVER O. HOWARD, U. S. A.,
Military History.

CAPTAIN CHARLES H. STOCKTON, U. S. N.,
(President Naval War College, Newport, Rhode Island.)
International Law.

WILLIAM A. SHAW, M. S.,
Observer, U. S. Weather Bureau; Meteorology.

JOHN B. JOHNSON, *Bursar.*
HERBERT R. ROBERTS, *Librarian.*

BATTALION ORGANIZATION.

JOHN POOL MOSELEY, Cadet Captain, N. U. C. C.,
Acting Commandant.

GEORGE PRENTICE LOVELL, Cadet 1st Lieut.-Adjutant and Quartermaster.

CADET COMPANIES.

"A."

CAPT. HEZEKIAH KIBBE BROOKS,
1ST LIEUT. FRANK LEROY ALDRICH,
2D LIEUT. LOUIS FRANKLIN CHAMBERLAIN.

"B."

CAPT. CHARLES HORACE EATON,
1ST LIEUT. FRED ALDRICH WEBSTER,
2D LIEUT. RALPH WALES DUNSMOOR.

The late General William Tecumseh Sherman said of the University: "This military school at one time almost rivalled the National Academy at West Point, and there many a man, who afterward became famous in the Mexican and Civil Wars, first drank in the inspirations of patriotism and learned the lessons of the art of war."

To the discipline and instruction received at this institution, is due the reputation acquired by many of the New England (and other) regiments; and the "Green Mountain Boys" (whose record in the Civil War is second to none) owe their success and renown, largely to the training received within her halls. The Honor Roll of the Civil War contains the names of many generals (among them those of G. P. Buell, Burton, G. M. Dodge, Lander, Milroy, T. E. G. Ransom, Truman Seymour, Seth Williams, P. V. Hagner, late Chief of Ordnance U. S. A.), a large number of colonels and other field officers, also of line and non-commissioned officers, together with Rear Admirals Paulding and Carpenter, Captains Ward and Colvocoresses, Lieut.-Commander Dewey, and many others of the Navy.

More than fifty of her Past Cadets served in the late war with Spain, chief among them being Admiral Dewey, the Victor of Manila, Brig.-Gen'l Williston, Col. Edmund Rice (of whom General Miles has said that "he had the best regiment in the Army of the Potomac"), and others of less rank in both branches of the service.

It has always been, and still is, the highest endeavor of the Trustees and the Faculty to maintain, in every respect, the high military character of the University, bearing in mind the fact that the aim of any scholastic institution should be not merely to graduate scholars, but to make men. To this end special attention is paid, not only to drill in the manual of arms, the execution of tactical movements and the necessary routine of a post, but also to the development of honor, truth, candor, self-respect and loyalty. While the discipline is strict, it is not severe, the government being largely by privileges rather than

SOPHOMORE CLASS.

Name.	Course.	Home Address.
Fred Thomson Bass,	C. E.	*Randolph*
Dean Orris Carr,	C. E.	*Georgia Plains*
Harry Guy Clark,	C. E.	*Champlain, N. Y.*
Irving Clendenen Ellis,	C. E.	*Northfield*
Charles Hobart Grant,	C. E.	*So. Ryegate*
Carl Danforth Hazen,	C. E.	*Worcester, Mass.*
Norbert Vincent Mullin,	C. E.	*Worcester, Mass.*
Leonard Melvin Newton,	C. E.	*Olcott*
William Steele Pingree,	S. & L.	*Hartford*
Jeffers Foster Richardson,	C. E.	*Paterson, N. J.*
William Everett Robertson,	Ch.	*St. Albans*
*James Macomber Wardner,	C. E.	*Rainbow, N. Y.*
†George Frank Waugh,	C. E.	*Lowell, Mass.*
Charles Edward Wheatley,	C. E.	*Montpelier*

* Enlisted in 1st N. H. Vols.—Sick.

† Enlisted in 6th Mass. Vols.—Sick.

be of some use. Parents who are in search of some institution where self-control and self-discipline (all-important factors in future success) are made prominent features, and receive special attention in the education, might do well to visit Norwich University.

"The system of discipline inaugurated by Captain Partridge in 1834 is still in force here, and is only modified to suit the higher condition of cultivation of the student. The discipline is still as strong, and the cadet is under a strict military regime every day and every hour that he spends at the University. He is marched to his meals, to prayers, to classroom and to church. He is taught to be neat in his person, regular in habits and methodical in work."

The State Inspector (an officer of the Army detailed for service with the Vermont National Guard), also makes a yearly visit and reports to the Governor. In 1896 this officer said:

"These students are able to execute every movement in infantry drill regulations and, as far as possible without horses, artillery movements, with a correctness and precision not to be expected of any other body of troops in the State."

In 1899, this officer said:

"The entire drill was excellent. Discipline, apparently excellent. The camp was perfectly clean and well kept; arms, accoutrements and clothing were clean and well kept; the uniform is neat and appropriate, and the young men were enthusiastic in their military duties."

By her work for more than three-quarters of a century, Norwich University merits the confidence and generous support of the general public.

ADMISSION Candidates for admission must be at least fifteen years of age and must present satisfactory evidence of good moral character. Application blanks will be furnished by the President when requested. No person will be admitted who is less than five feet in height, or who is deformed, or afflicted with any disease or infirmity which would render him unfit for military duty, or who has at the time of presenting himself any disorder of an infectious or immoral character.

RECENT GRADUATES.

1890.

C. F. Parker, Civil Engineer, Thompson & Co.....*Revere, Mass.*
C. E. Collins, City Engineer .....*St. Albans, Vt.*
S. B. Adams, Boiler Inspector.....*Boston*
D. W. Lewis, Clerk.....*Boston & Maine Railway*
Herman Dressel, Jr., County Examiner, Prin. High School,
Springfield, Vt.
H. J. Dane, Pharmacist .....*Northfield, Vt.*
I. R. Mower, representing Parke, Davis & Co., in .....*Chicago, Ill.*
J. H. Judkins, Physician.....*Northfield, Vt.*

1891.

George Franklin Abbott, Civil Engineer, West End Street Railway,
Boston
*The Rev. Alfred Frederick Booth .....
Edward Aiken Shuttleworth.....*1st Lieut. 12th Inft., U. S. A.*
William Hibbard Sprague, Merchant .....*East Brookfield, Vt.*
Harry Gordon Woodruff, Collection Clerk, Amoskeag National Bank,
Manchester, N. H.
Ethan Allen Shaw, Professor.....*Norwich University*
Carl Gilman Dole, B. & M. R. R. (1st Vt. Vols.)...*Woodsville, N. H.*
Heber Calvin Cady, Assistant Cashier.....*Northfield Savings Bank*
Burton Wiley Farnham, City Engineer's Office .....*Lowell, Mass.*
Fred Miner Goodhue .....*Lowell, Mass.*
Percy Gates Smith, City Engineer's Office.....*Worcester, Mass.*
Clarence Bonnett Riggs, Civil Engineer (3d U. S. Vol. Engs.)
New Rochelle, N. Y.

*Deceased.

Graduates from approved High Schools or Academies are admitted upon certificates. Candidates for advanced standing must pass satisfactory examinations in the studies already completed by the class which they propose to enter, as well as in those required for admission. Those, however, from other colleges should bring certificates of honorable dismissal, and marks showing standing. The latter may, on approval by the Faculty, be taken in lieu of examination. No student under suspension or expulsion from any other institution will be received. Students are considered as on probation for eight weeks.

COURSES OF INSTRUCTION.

MILITARY COURSE.

Exercises, Drills or Lectures daily, throughout the four years.

FALL TERM.

Settings up.
Calls.
Manual of Arms.
School of the Company.
Extended Order Drill.
Bayonet Exercise in doors in bad weather.

WINTER TERM.

Manual of the Sword.
Lectures on Military Engineering or Military Science and Art of War for Seniors and Juniors.
Recitations in Drill Regulations for all but Freshmen; in signal code for Freshmen.

SPRING TERM.

Artillery Drill.
Rifle Practice.
Battalion Drill.
Ceremonies.
Signaling.
Lectures on Customs of the service.
Encampment.

The Cadets are at all times under military discipline, and strict observance of military customs is required.

Cadets are detailed as Officer of the Day, of the Guard, etc., in their turn, are instructed in making out the different kinds

of military reports, and are trained in the duties incident to field or garrison.

The Cadet Officers are appointed in accordance with their relative academic and military standing.

EXAMINATIONS Are held from time to time in the tactics, orders, duties and customs of military service, in order to insure familiarity with them.

ENCAMPMENT An Encampment of one week is held near the close of the spring term, and the Cadets receive instructions in the details of camp life, together with guard duty. While in camp a general review of all the drills is made to insure familiarity with them. Considerable time is also devoted to attack and defence of camp, and to rifle practice. There is at this time an inspection by the Adjutant-General of the Vermont National Guard, or his assistant.

PRACTICE MARCHES The Encampment may be varied by practice marches about the State. During the encampment, and on the march, the Cadets are at all times under the command of the Commandant, who is responsible for their conduct.

ACADEMIC COURSES.

Four regular courses have been established, as follows:

I. Civil Engineering.
II. Arts.
III. Chemistry.
IV. Science and Literature.

The courses in Civil Engineering and Chemistry have a distinctly practical bearing, and give a thorough training for these technical professions.

The course in Arts embraces the usual classical course with French or German, Physical Science, etc., etc.

The course in Science and Literature is intended for such as may not wish to pursue a full course in Classics or Mathematics, or one for a distinctly scientific profession.

Each of these courses extends through four years, and is intended to give the student a liberal preparation for the duties of life.

Changes are made in the course in Chemistry to meet the wants of students preparing for Medicine and Pharmacy.

I. THE COURSE IN CIVIL ENGINEERING.

Leading to the degree of Bachelor of Science in Civil Engineering.

NOTE.—The figures after each subject indicate the number of recitation periods of sixty minutes each per week.

FRESHMAN YEAR.

FALL TERM.

Algebra 5	Rhetoric 3
French or German 3	Free-hand Drawing 4
Inorganic Chemistry ..... $3\frac{1}{4}$ (text 2, laboratory $1\frac{1}{4}$.)	

WINTER TERM.

Geometry 5	Rhetoric 3
French or German 3	Lettering 2
Inorganic Chemistry ..... $3\frac{1}{4}$ (text 2, laboratory $1\frac{1}{4}$.)	Tinting and Shading 2

SPRING TERM.

Trigonometry 5	Rhetoric 3
French or German 3	Mechanical Drawing 4
Inorganic Chemistry ..... $3\frac{1}{4}$ (text 2, laboratory $1\frac{1}{4}$.)	

SOPHOMORE YEAR.

FALL TERM.

Analytical Geometry 5	Descriptive Geometry and
French or German 3	Drafting 6
Mechanics and Heat 3	

WINTER TERM.

Differential Calculus 5	Descriptive Geometry and
French or German 3	Drafting 6

SPRING TERM.

Integral Calculus.....5
Land Surveying, Leveling, and Field Work.....6
(text 2, field work 4.)
French or German.....3
Electricity and Magnetism.....3
Detail Drawing, Tracing, Blue Prints.....6

JUNIOR YEAR.

SUMMER SCHOOL OF THREE WEEKS.

FALL TERM.

Mechanics of Engineering—
Statics and Dynamics.....5
Geology.....3
Least Squares.....2
Advanced Surveying—
Topographical and Municipal....7
(text 3, field work 4.)

WINTER TERM.

Mechanics of Engineering—
Materials.....5
Blowpipe Analysis and Determinative Mineralogy.....2
Qualitative Analysis.....4
Colored and Pen Topography....3
Trusses and Arches.....2
Graphics of Trusses and Arches..3

SPRING TERM.

Stone Cutting.....4
(text 2, drafting 2.)
Mechanics of Engineering—
Hydraulics, Retaining Walls, Masonry Dams.....5
Geodetic and Mining Surveying.....3
Botany.....3
Bridge Stresses.....6
(text 2, drafting 4.)

SENIOR YEAR.

SUMMER SCHOOL OF THREE WEEKS.

FALL TERM.

Commercial Law.....3
Metallurgy.....2
Bridge Designing.....2
Drawing—
Railroad Maps.....3
Railroad Engineering (curves, turnouts and practical location of railway).....6
(text 2, field work 4.)

Constitutional or International Law 3
Hydraulic and Sanitary Engineering 3
Civil Engineering—
Materials of Engineering, Foundations, Canals, Highways.....3
Drawing—
Design of Bridges.....6

SPRING TERM.

Spherical Astronomy—
Determination of Time, Latitude, etc.....5
Contracts and Specifications.....3
Political Economy.....3
Highway Engineering.....2
Railroad Engineering.....3
Thesis .....

II. THE COURSE IN ARTS.

Leading to the degree of Bachelor of Arts.

FRESHMAN YEAR.

FALL TERM.

Algebra.....5
Memorabilia and Greek Prose....3
Livy and Latin Prose.....3
Rhetoric 3
Inorganic Chemistry.....3¼
(text 2, laboratory 1¼.)

WINTER TERM.

Geometry 5
Herodotus.....3
Tacitus—Germania..... 3
Rhetoric 3
Inorganic Chemistry.....3¼
(text 2, laboratory 1¼.)

SPRING TERM.

Trigonometry 5
Homer's Odyssey.....3
Cicero—
De Senectute, De Amicitia.....3
Rhetoric 3
Inorganic Chemistry.....3¼
(text 2, laboratory 1¼.)

SOPHOMORE YEAR.

FALL TERM.

Sophocles 2
Juvenal's Satires or Ovid.....2
Ancient History..... 2
English Literature..... 2

WINTER TERM.

Demosthenes.....2	English Literature.....2
Horace—Odes and Epodes.....2	Mediæval History.....2
Acoustics and Optics.....3	

SPRING TERM.

Æschylus.....2	Modern History.....2
Horace—Satires and Epistles....2	Land Surveying.....6
Electricity and Magnetism.....3	(text 2, field work 4.)
English Literature.....2	

JUNIOR YEAR.

FALL TERM.

Demosthenes.....2	French or German.....3
Pliny.....2	English Literature.....2
Geology.....3	

WINTER TERM.

Plato.....2	English Literature.....2
Plautus.....2	State.....3
French or German.....3	

SPRING TERM.

Greek Syntax.....2	English Literature.....2
Latin Syntax.....2	United States History.....3
French or German.....3	

SENIOR YEAR.

FALL TERM.

Analytical Chemistry.....6	Commercial Law.....3
French or German.....3	Logic.....3

WINTER TERM.

French or German.....3	Constitutional Law.....3
International Law.....3	Psychology.....3

SPRING TERM.

French or German.....3	Ethics.....3
Political Economy.....3	Astronomy.....5

[illegible] COURSE IN CHEMISTRY.

[illegible] Chemistry

[illegible] YEAR.

[illegible] 3
[illegible] 4

[illegible] 3
[illegible] 2
[illegible] 2

[illegible] 3
[illegible] 4

[illegible] YEAR

[illegible] 10

[illegible] 6
[illegible] 6

[illegible] Analysis 10
[illegible] Reactions 3

[illegible] Science and Literature.

JUNIOR YEAR.

FALL TERM.

Geology 3	Zoölogy 2
Organic Chemistry 2	English Literature 2
Gravimetric Analysis 10	

WINTER TERM.

Organic Chemistry 2	English Literature 2
Gravimetric Analysis 12	

SPRING TERM.

English Literature 2	Volumetric Analysis 10
Organic Chemistry 2	Botany 3

SENIOR YEAR.

FALL TERM.

Commercial Law 3	Toxicology 6
Metallurgy 2	Medical Chemistry 6

WINTER TERM.

Constitutional Law 3	Food Analysis 12
International Law 3	

SPRING TERM.

Political Economy 3	Water Analysis 10

IV. THE COURSE IN SCIENCE AND LITERATURE.

Leading to the degree of Bachelor of Science.

FRESHMAN YEAR.

FALL TERM.

Algebra 5	Rhetoric 3
Livy and Latin Prose 3	German 3
Inorganic Chemistry ..... $3\frac{1}{4}$	
(text 2, laboratory $1\frac{1}{4}$)	

[illegible]	[illegible]
De Senectute De Amicitia.....3	Rhetoric.....3
	German.....3

SOPHOMORE YEAR.

FALL TERM.

Juvenal's Satires.....2	Ancient History.....2
Mechanics and Heat.....3	English Literature.....2
German.....3	

WINTER TERM.

Horace—Odes and Epodes.....2	Mediæval History.....2
Acoustics and Optics.....3	English Literature.....2
German.....3	

SPRING TERM.

Horace—Satires and Epistles.....2	Modern History.....2
Electricity and Magnetism.....3	English Literature.....2
German.....3	
Land Surveying.....6	
(text 2, field work 4)	

JUNIOR YEAR.

FALL TERM.

French.....3	English History.....3
Geology.....3	English Literature.....2
Zoölogy.....2	

WINTER TERM.

French.....3	English Literature.....2
Analytical Chemistry.....6	State.....3
Blowpipe Analysis.....2	

SPRING TERM.

French.....3
English Literature.....2
Analytical Chemistry.....6
United States History.....3
Botany.....3

SENIOR YEAR.

FALL TERM.

French.....3
Commercial Law.....3
Metallurgy.....2
Psychology.....3

WINTER TERM.

French.....3
International Law.....3
Constitutional Law.....3
Logic.....3

SPRING TERM.

French.....3
Political Economy.....3
Astronomy.....5
Ethics.....2

Lectures on Meteorology to all Seniors during winter term.

TEXT BOOKS AND BOOKS OF REFERENCE.

MATHEMATICS.

Astronomy.....Young
Algebra.....Wells' University
Analytical Geometry.....Loomis
Calculus.....Taylor
Least Squares.....Merriman
Geometry.....Davies' Legendre
Mechanics.....Church
Trigonometry.....Davies
Descriptive Geometry.....Church

ENGINEERING.

Surveying.....Johnson
Railroad Surveying.....Carhart
Bridge Stresses.....Merriman
Civil Engineering.....Panton and Trautwine
Specifications.....Johnson
Hydraulic Engineering...Fanning
Sanitary Engineering.....Adams
Stereotomy.....Mahan
Stresses in Framed Structures.....Johnson and Bryant
Wellington's Earth Work Computation.
Foundations.....Patton
Bridge Designing.....Merriman
Hydraulics.....Merriman

SCIENCES.

Botany—Gray's Manual and Lessons.
Chemistry—Inorganic....Shepard
Chemistry, Analysis, Qualitative, Elliot, Fresenius.
Volumetric Analysis.....Sutton
Analysis, Quantitative, Evans, Fresenius.
Organic Industrial Chemistry, Sadtler.
Blowpipe, Plimpton's Qualitative, Plattner's Qualitative and Quantitative, by Cornwall.
Metallurgy, and Assaying, Hiorn's Text-Book of Elementary Metallurgy, Hiorn's Practical Metallurgy and Assaying.
Medical Chemistry, Ralfe's Clinical Chemistry.
Organic.....Remsen
Physics—Principles of Physics, Gage.
Zoölogy.....Packard
Practical Zoölogy....Marshall and Hurst.
Geology.....Le Conte's Compend
Mineralogy, Dana's Manual, and Foye's Tables.
Food Adulteration and its Detection, Battershall, Blyth.
Toxicology.....Blyth

MODERN LANGUAGES.

French...Whitney's French Grammar.
Super's French Reader.
French Literature.
German.....Joynes'-Meissner German Grammar.
Joynes' German Reader.
German Literature.

HISTORY, POLITICAL SCIENCE AND LAW.

History — Ancient, Mediæval and Modern ..... Myers
English ..... Montgomery
Political Economy ..... Walker
Psychology ..... James
Logic ..... Davis
Ethics ..... Muirhead
International Law ..... Woolsey
Constitutional Law ..... Cooley
Commercial Law ..... Townshend
The State ..... Wilson
Johnson's American Politics.

ENGLISH.

Rhetoric — Hill's Principles of Practical Rhetoric.
Genung's Practical Rhetoric.
Elocution—Clark's Notes on Reading.
Bacon's Manual of Gesture.
English Literature ..... Arnold

MILITARY SCIENCE.

Drill Regulations for Infantry and Artillery.
Small Arms Firing Regulations.
Wagner's Organization and Tactics.
Wagner's Security and Information.
Batchelor's Fire Discipline.
Winthrop's Military Law.
Manual of Field Engineering.
Also other books and publications which are found suitable for instruction in military work.

DEGREES, ETC.

The candidate for any degree must deposit with the Faculty a satisfactory thesis on some scientific or literary subject connected with his department.

DEGREES OF GRADUATION

The degree of Bachelor of Science in Civil Engineering is conferred upon any student who has completed the course in Civil Engineering.

The degree of Bachelor of Arts is conferred upon any student who has completed the course in Arts.

The degree of Bachelor of Science in Chemistry is conferred upon any student who has completed the course in Chemistry.

The degree of Bachelor of Science is conferred upon any student who has completed the course in Science and Litera-

ADVANCED DEGREES The Master's degree in Science or Art is conferred upon graduates of three years' standing, who, having taken the corresponding Bachelor's degree, have during that time been engaged in professional, literary or scientific pursuits, or have pursued a course marked out by the Faculty for two years after graduation, and have passed the requisite examinations.

The degree of Civil Engineer is conferred upon graduates in Civil Engineering of three years' standing, who have pursued the profession of engineering during that time, have passed the requisite examinations, and have presented a satisfactory thesis; or upon graduates who have completed a post-graduate course.

TEACHER'S CERTIFICATES In accordance with the decision of the Superintendent of Education of the State, the Hon. Mason S. Stone, "Graduates are entitled to a five years' teacher's certificate without examination."

COMMISSIONED OFFICERS Upon graduation, Cadet Officers receive commissions signed by the President of the University, and by the Adjutant and Inspector-General of the State.

SUBJECTS AND METHODS OF INSTRUCTION.

CIVIL ENGINEERING The thorough training of the eye and hand in Free-hand Drawing is of the greatest importance in all subsequent drafting. The course embraces accurate outline drawing, elementary perspective, sketching, object drawing, pencil shading and designing. The effort is made to produce designers, instead of mere copyists. Practice in lettering, large and small drawings, general orders, etc., also in tinting and shading with the right line pen, and with brush and water colors, is given in the second term. Neatness of text and rapidity of execution are aimed at. In the third term, dexterity in handling drafting instruments is acquired. Various applications of geometry to drafting, and the orthographic and isometric projections of joints and splices

in wood construction are taught. Descriptive Geometry is taught in the fourth and fifth terms, with special reference to its application to shades and shadows, machine construction, stone cutting, and to the design of stone bridges, culverts, spiral stairways, sewer intersections, etc.

The course in bridges begins with the drawing of details, which are measured by students while visiting engineering structures. Thus, while the student acquires facility in drawing, he becomes familiar with the various details of a bridge. An extended course in Bridge Stresses is given in the ninth term, and in the eleventh term the student is given specifications, and required to apply his theoretical knowledge in designing railway and highway bridges of wood, iron and steel, to the minutest details. In Pen Topography and Colored Topography the students use the conventions for map making, and apply them in the maps platted from the land and railroad surveys.

An extended course in Applied Mathematics or Mechanics of Engineering is given, in which engineering problems concerning rigid bodies at rest or in motion, the strength of engineering materials, and the statics and dynamics of liquids and gases, are practically treated.

The Laboratory work of the eighth term, and the Metallurgy of the tenth, enable the student to study the materials of engineering with regard to strength and constituents. Under Hydraulic, Sanitary and Civil Engineering, the design and construction of water supply and distribution systems, sewerage systems, and sewage disposal, and of canals, tunnels, foundations in water and on land, and river and harbor improvements, are treated.

Six hours of drafting per week are required throughout the course, and while the above subjects are being studied, numerous designs of engineering structures are made in the drafting room. In the Reading Room are placed the best of engineering periodicals, which give descriptions of all new works of special interest, and enable the student to keep up with the latest methods of construction.

Constitutional or International Law 3
Hydraulic and Sanitary Engineering 3

Civil Engineering—
Materials of Engineering, Foundations, Canals, Highways 3
Drawing—
Design of Bridges 6

SPRING TERM.

Spherical Astronomy—
Determination of Time, Latitude, etc 5
Contracts and Specifications 3

Political Economy 3
Highway Engineering 2
Railroad Engineering 3
Thesis .....

II. THE COURSE IN ARTS.

Leading to the degree of Bachelor of Arts.

FRESHMAN YEAR.

FALL TERM.

Algebra 5
Memorabilia and Greek Prose 3
Livy and Latin Prose 3

Rhetoric 3
Inorganic Chemistry ..... $3\frac{1}{4}$
(text 2, laboratory $1\frac{1}{4}$.)

WINTER TERM.

Geometry 5
Herodotus 3
Tacitus—Germania 3

Rhetoric 3
Inorganic Chemistry ..... $3\frac{1}{4}$
(text 2, laboratory $1\frac{1}{4}$.)

SPRING TERM.

Trigonometry 5
Homer's Odyssey 3
Cicero—
De Senectute, De Amicitia 3

Rhetoric 3
Inorganic Chemistry ..... $3\frac{1}{4}$
(text 2, laboratory $1\frac{1}{4}$.)

SOPHOMORE YEAR.

FALL TERM.

Sophocles 2
Juvenal's Satires or Ovid 2

Ancient History 2
English Literature 2

WINTER TERM.

Demosthenes.....2	English Literature.....2
Horace—Odes and Epodes.....2	Mediæval History.....2
Acoustics and Optics.....3	

SPRING TERM.

Æschylus.....2	Modern History.....2
Horace—Satires and Epistles....2	Land Surveying.....6
Electricity and Magnetism.....3	(text 2, field work 4.)
English Literature.....2	

JUNIOR YEAR.

FALL TERM.

Demosthenes.....2	French or German.....3
Pliny.....2	English Literature.....2
Geology.....3	

WINTER TERM.

Plato.....2	English Literature.....2
Plautus.....2	State.....3
French or German.....3	

SPRING TERM.

Greek Syntax.....2	English Literature.....2
Latin Syntax.....2	United States History.....3
French or German.....3	

SENIOR YEAR.

FALL TERM.

Analytical Chemistry.....6	Commercial Law.....3
French or German.....3	Logic.....3

WINTER TERM.

French or German.....3	Constitutional Law.....3
International Law.....3	Psychology.....3

SPRING TERM.

French or German.....3	Ethics.....3
Political Economy.....3	Astronomy.....5

Leading to the degree of Bachelor of Science in Chemistry.

FRESHMAN YEAR.

FALL TERM.

Algebra.....5	Rhetoric.....3
French, German or Latin*.....3	Free-hand Drawing.....4
Inorganic Chemistry.....3¼	
(text 2, laboratory 1¼.)	

WINTER TERM.

Geometry.....5	Rhetoric.....3
French, German or Latin.....3	Lettering.....2
Inorganic Chemistry.....3¼	Tinting and Shading.....2
(text 2, laboratory 1¼.)	

SPRING TERM.

Trigonometry.....5	Rhetoric.....3
French, German or Latin.....3	Mechanical Drawing.....4
Inorganic Chemistry.....3¼	
(text 2, laboratory 1¼.)	

SOPHOMORE YEAR.

FALL TERM.

French, German or Latin.....3	Qualitative Analysis.....10
Mechanics and Heat.....3	

WINTER TERM.

French, German or Latin.....3	Blowpipe Analysis.....6
Acoustics and Optics.....3	Qualitative Analysis.....6

SPRING TERM.

French, German or Latin.....3	Qualitative Analysis.....10
Electricity and Magnetism.....3	Quantitative Relations..... 3

* Requires the same preparation as for the Course in Science and Literature.

JUNIOR YEAR.

FALL TERM.

Geology..... 3	Zoölogy.....2
Organic Chemistry 2	English Literature.....2
Gravimetric Analysis.....10	

WINTER TERM.

Organic Chemistry 2	English Literature.....2
Gravimetric Analysis.....12	

SPRING TERM.

English Literature.....2	Volumetric Analysis.....10
Organic Chemistry.....2	Botany..... 3

SENIOR YEAR.

FALL TERM.

Commercial Law.....3	Toxicology.....6
Metallurgy 2	Medical Chemistry.....6

WINTER TERM.

Constitutional Law.....3	Food Analysis.....12
International Law.....3	

SPRING TERM.

Political Economy..... 3	Water Analysis.....10

IV. THE COURSE IN SCIENCE AND LITERATURE.

Leading to the degree of Bachelor of Science.

FRESHMAN YEAR.

FALL TERM.

Algebra.....5	Rhetoric 3
Livy and Latin Prose.....3	German.....3
Inorganic Chemistry.....$3\frac{1}{4}$	
(text 2, laboratory $1\frac{1}{4}$)	

be of some use. Parents who are in search of some institution where self-control and self-discipline (all-important factors in future success) are made prominent features, and receive special attention in the education, might do well to visit Norwich University.

"The system of discipline inaugurated by Captain Partridge in 1834 is still in force here, and is only modified to suit the higher condition of cultivation of the student. The discipline is still as strong, and the cadet is under a strict military regime every day and every hour that he spends at the University. He is marched to his meals, to prayers, to classroom and to church. He is taught to be neat in his person, regular in habits and methodical in work."

The State Inspector (an officer of the Army detailed for service with the Vermont National Guard), also makes a yearly visit and reports to the Governor. In 1896 this officer said:

"These students are able to execute every movement in infantry drill regulations and, as far as possible without horses, artillery movements, with a correctness and precision not to be expected of any other body of troops in the State."

In 1899, this officer said:

"The entire drill was excellent. Discipline, apparently excellent. The camp was perfectly clean and well kept; arms, accoutrements and clothing were clean and well kept; the uniform is neat and appropriate, and the young men were enthusiastic in their military duties."

By her work for more than three-quarters of a century, Norwich University merits the confidence and generous support of the general public.

ADMISSION Candidates for admission must be at least fifteen years of age and must present satisfactory evidence of good moral character. Application blanks will be furnished by the President when requested. No person will be admitted who is less than five feet in height, or who is deformed, or afflicted with any disease or infirmity which would render him unfit for military duty, or who has at the time of presenting himself any disorder of an infectious or immoral character.

SPRING TERM.

French.....3	United States History.....3
English Literature.....2	Botany.....3
Analytical Chemistry.....6	

SENIOR YEAR.

FALL TERM.

French.....3	Metallurgy.....2
Commercial Law.....3	Psychology.....3

WINTER TERM.

French.....3	Constitutional Law.....3
International Law.....3	Logic.....3

SPRING TERM.

French.....3	Astronomy.....5
Political Economy.....3	Ethics.....2

Lectures on Meteorology to all Seniors during winter term.

TEXT BOOKS AND BOOKS OF REFERENCE.

MATHEMATICS.

Astronomy.....Young
Algebra.....Wells' University
Analytical Geometry.....Loomis
Calculus.....Taylor
Least Squares.....Merriman
Geometry.....Davies' Legendre
Mechanics.....Church
Trigonometry.....Davies
Descriptive Geometry.....Church

ENGINEERING.

Surveying.....Johnson
Railroad Surveying.....Carhart
Bridge Stresses.....Merriman
Civil Engineering.....Panton and Trautwine
Specifications.....Johnson
Hydraulic Engineering...Fanning
Sanitary Engineering.....Adams
Stereotomy.....Mahan
Stresses in Framed Structures.....Johnson and Bryant
Wellington's Earth Work Computation.
Foundations.....Patton
Bridge Designing.....Merriman
Hydraulics.....Merriman

SCIENCES.

Botany—Gray's Manual and Lessons.
Chemistry—Inorganic....Shepard
Chemistry, Analysis, Qualitative, Elliot, Fresenius.
Volumetric Analysis.....Sutton
Analysis, Quantitative, Evans, Fresenius.
Organic Industrial Chemistry, Sadtler.
Blowpipe, Plimpton's Qualitative, Plattner's Qualitative and Quantitative, by Cornwall.
Metallurgy, and Assaying, Hiorn's Text-Book of Elementary Metallurgy, Hiorn's Practical Metallurgy and Assaying.
Medical Chemistry, Ralfe's Clinical Chemistry.
Organic.....Remsen
Physics—Principles of Physics, Gage.
Zoölogy.....Packard
Practical Zoölogy....Marshall and Hurst.
Geology.....Le Conte's Compend
Mineralogy, Dana's Manual, and Foye's Tables.
Food Adulteration and its Detection, Battershall, Blyth.
Toxicology.....Blyth

MODERN LANGUAGES.

French...Whitney's French Grammar.
Super's French Reader.
German.....Joynes'-Meissner German Grammar.
Joynes' German Reader.

HISTORY, POLITICAL SCIENCE AND LAW.

History — Ancient, Mediæval and Modern ..... Myers
English ..... Montgomery
Political Economy ..... Walker
Psychology ..... James
Logic ..... Davis
Ethics ..... Muirhead
International Law ..... Woolsey
Constitutional Law ..... Cooley
Commercial Law ..... Townshend
The State ..... Wilson
Johnson's American Politics.

ENGLISH.

Rhetoric .. Hill's Principles of Practical Rhetoric.
Genung's Practical Rhetoric.
Elocution—Clark's Notes on Reading.
Bacon's Manual of Gesture.
English Literature ..... Arnold

MILITARY SCIENCE.

Drill Regulations for Infantry and Artillery.
Small Arms Firing Regulations.
Wagner's Organization and Tactics.
Wagner's Security and Information.
Batchelor's Fire Discipline.
Winthrop's Military Law.
Manual of Field Engineering.
Also other books and publications which are found suitable for instruction in military work.

DEGREES, ETC.

The candidate for any degree must deposit with the Faculty a satisfactory thesis on some scientific or literary subject connected with his department.

DEGREES OF GRADUATION

The degree of Bachelor of Science in Civil Engineering is conferred upon any student who has completed the course in Civil Engineering.

The degree of Bachelor of Arts is conferred upon any student who has completed the course in Arts.

The degree of Bachelor of Science in Chemistry is conferred upon any student who has completed the course in Chemistry.

The degree of Bachelor of Science is conferred upon any student who has completed the course in Science and Literature.

ADVANCED DEGREES

The Master's degree in Science or Art is conferred upon graduates of three years' standing, who, having taken the corresponding Bachelor's degree, have during that time been engaged in professional, literary or scientific pursuits, or have pursued a course marked out by the Faculty for two years after graduation, and have passed the requisite examinations.

The degree of Civil Engineer is conferred upon graduates in Civil Engineering of three years' standing, who have pursued the profession of engineering during that time, have passed the requisite examinations, and have presented a satisfactory thesis; or upon graduates who have completed a post-graduate course.

TEACHER'S CERTIFICATES

In accordance with the decision of the Superintendent of Education of the State, the Hon. Mason S. Stone, "Graduates are entitled to a five years' teacher's certificate without examination."

COMMISSIONED OFFICERS

Upon graduation, Cadet Officers receive commissions signed by the President of the University, and by the Adjutant and Inspector-General of the State.

SUBJECTS AND METHODS OF INSTRUCTION.

CIVIL ENGINEERING

The thorough training of the eye and hand in Free-hand Drawing is of the greatest importance in all subsequent drafting. The course embraces accurate outline drawing, elementary perspective, sketching, object drawing, pencil shading and designing. The effort is made to produce designers, instead of mere copyists. Practice in lettering, large and small drawings, general orders, [illegible] inking and shading with the right line pen, and with the brush and water colors is given in the second term. Neatness of text and rapidity of execution are aimed at. In the third term dexterity in handling drafting instruments is acquired. Various applications of geometry to drafting, and the [illegible] and isometric projections of [illegible] and spaces

in wood construction are taught. Descriptive Geometry is taught in the fourth and fifth terms, with special reference to its application to shades and shadows, machine construction, stone cutting, and to the design of stone bridges, culverts, spiral stairways, sewer intersections, etc.

The course in bridges begins with the drawing of details, which are measured by students while visiting engineering structures. Thus, while the student acquires facility in drawing, he becomes familiar with the various details of a bridge. An extended course in Bridge Stresses is given in the ninth term, and in the eleventh term the student is given specifications, and required to apply his theoretical knowledge in designing railway and highway bridges of wood, iron and steel, to the minutest details. In Pen Topography and Colored Topography the students use the conventions for map making, and apply them in the maps platted from the land and railroad surveys.

An extended course in Applied Mathematics or Mechanics of Engineering is given, in which engineering problems concerning rigid bodies at rest or in motion, the strength of engineering materials, and the statics and dynamics of liquids and gases, are practically treated.

The Laboratory work of the eighth term, and the Metallurgy of the tenth, enable the student to study the materials of engineering with regard to strength and constituents. Under Hydraulic, Sanitary and Civil Engineering, the design and construction of water supply and distribution systems, sewerage systems, and sewage disposal, and of canals, tunnels, foundations in water and on land, and river and harbor improvements, are treated.

Six hours of drafting per week are required throughout the course, and while the above subjects are being studied, numerous designs of engineering structures are made in the drafting room. In the Reading Room are placed the best of engineering periodicals, which give descriptions of all new works of special interest, and enable the student to keep up with the latest methods of construction.

WINTER TERM.

Constitutional or International Law 3
Hydraulic and Sanitary Engineering 3
Civil Engineering—
Materials of Engineering, Foundations, Canals, Highways.....3
Drawing—
Design of Bridges.....6

SPRING TERM.

Spherical Astronomy—
Determination of Time, Latitude, etc.....5
Contracts and Specifications.....3
Political Economy.....3
Highway Engineering.....2
Railroad Engineering.....3
Thesis .....

II. THE COURSE IN ARTS.

Leading to the degree of Bachelor of Arts.

FRESHMAN YEAR.

FALL TERM.

Algebra.....5
Memorabilia and Greek Prose....3
Livy and Latin Prose.....3
Rhetoric 3
Inorganic Chemistry.....3¼
(text 2, laboratory 1¼.)

WINTER TERM.

Geometry 5
Herodotus.....3
Tacitus—Germania 3
Rhetoric 3
Inorganic Chemistry.....3¼
(text 2, laboratory 1¼.)

SPRING TERM.

Trigonometry 5
Homer's Odyssey.....3
Cicero—
De Senectute, De Amicitia.....3
Rhetoric 3
Inorganic Chemistry.....3¼
(text 2, laboratory 1¼.)

SOPHOMORE YEAR.

FALL TERM.

Sophocles 2
Juvenal's Satires or Ovid.....2
Mechanics and Heat.....3
Ancient History..... 2
English Literature..... 2

SUMMER SCHOOL A course of practical field work, uninterrupted by the daily routine, is pursued by the Seniors and Juniors for three weeks, beginning on the Monday immediately following Commencement Day.

MATHEMATICS In the department of Mathematics, sufficient attention is paid to practical applications to enable students to see the utility of their studies, and to assist them in the scientific professions.

Theory is developed in as careful and complete a manner as possible, in order that the student may receive that mind discipline which is so valuable an equipment for all pursuits, whether technical or general. The clearest and most concise text-books are sought for; abtruse and unprofitable discussions are avoided; original work is encouraged, and students are called on for personal recitations more frequently than in most institutions of similar character.

GEOLOGY AND MINERALOGY The treatment of Geology consists of text-book work, supplemented by frequent excursions in the field, in which the many interesting features of the region are examined. Colored maps, representing the geological formations of counties or large sections, are required. Mineralogy is taken up in connection with Geology, the student being required to identify minerals by their physical properties. In connection with this work each student is required to make a collection of fifty minerals, which he determines and classifies. To aid him in his work, he is given instructions in Blow-pipe Analysis and Determinative Mineralogy.

HISTORY AND POLITICAL SCIENCE The course of History affords a connected and comprehensive view of the history of civilization from the earliest times to the present. By investigating the causes which underlie the world's history, the instruction aims not only to train the memory and develop the reasoning faculties, but to fit men to deal wisely with those practical social questions of the present, upon whose solution the experience of the past throws the most

Leading to the degree of Bachelor of Science in Chemistry.

FRESHMAN YEAR.

FALL TERM.

Algebra.....5	Rhetoric.....3
French, German or Latin*.....3	Free-hand Drawing.....4
Inorganic Chemistry.....$3\frac{1}{4}$	
text 2, laboratory $1\frac{1}{4}$.	

WINTER TERM.

Geometry.....5	Rhetoric.....3
French, German or Latin.....3	Lettering.....2
Inorganic Chemistry.....$3\frac{1}{4}$	Tinting and Shading.....2
text 2, laboratory $1\frac{1}{4}$.	

SPRING TERM.

Trigonometry.....5	Rhetoric.....3
French, German or Latin.....3	Mechanical Drawing.....4
Inorganic Chemistry.....$3\frac{1}{4}$	
text 2, laboratory $1\frac{1}{4}$.	

SOPHOMORE YEAR.

FALL TERM.

French, German or Latin.....3	Qualitative Analysis.....10
Mechanics and Heat.....3	

WINTER TERM.

French, German or Latin.....3	Blowpipe Analysis.....6
Acoustics and Optics.....3	Qualitative Analysis.....6

SPRING TERM.

French, German or Latin.....3	Qualitative Analysis.....10
Electricity and Magnetism.....3	Quantitative Relations..... 3

* Requires the same preparation as for the Course in Science and Literature.

JUNIOR YEAR.

FALL TERM.

Geology	3	Zoölogy	2
Organic Chemistry	2	English Literature	2
Gravimetric Analysis	10		

WINTER TERM.

Organic Chemistry	2	English Literature	2
Gravimetric Analysis	12		

SPRING TERM.

English Literature	2	Volumetric Analysis	10
Organic Chemistry	2	Botany	3

SENIOR YEAR.

FALL TERM.

Commercial Law	3	Toxicology	6
Metallurgy	2	Medical Chemistry	6

WINTER TERM.

Constitutional Law	3	Food Analysis	12
International Law	3		

SPRING TERM.

Political Economy	3	Water Analysis	10

IV. THE COURSE IN SCIENCE AND LITERATURE.

Leading to the degree of Bachelor of Science.

FRESHMAN YEAR.

FALL TERM.

Algebra	5	Rhetoric	3
Livy and Latin Prose	3	German	3
Inorganic Chemistry (text 2, laboratory 1¼)	3¼		

Geometry.....5
Tacitus—Germania.....3
Inorganic Chemistry.....3¼
(text 2, laboratory 1¼.)
Rhetoric.....3
German.....3

SPRING TERM.

Trigonometry.....5
Cicero—
De Senectute, De Amicitia.....3
Inorganic Chemistry.....3¼
(text 2, laboratory 1¼.)
Rhetoric.....3
German.....3

SOPHOMORE YEAR.

FALL TERM.

Juvenal's Satires.....2
Mechanics and Heat.....3
German.....3
Ancient History.....2
English Literature.....2

WINTER TERM.

Horace—Odes and Epodes.....2
Acoustics and Optics.....3
German.....3
Mediæval History.....2
English Literature.....2

SPRING TERM.

Horace—Satires and Epistles.....2
Electricity and Magnetism.....3
German.....3
Land Surveying.....6
(text 2, field work 4.)
Modern History.....2
English Literature.....2

JUNIOR YEAR.

FALL TERM.

French.....3
Geology.....3
Zoölogy.....2
English History.....3
English Literature.....2

WINTER TERM.

French.....3
Analytical Chemistry.....6
Blowpipe Analysis.....2
English Literature.....2
State.....3

SPRING TERM.

French.....3	United States History.....3
English Literature.....2	Botany.....3
Analytical Chemistry.....6	

SENIOR YEAR.

FALL TERM.

French.....3	Metallurgy.....2
Commercial Law.....3	Psychology.....3

WINTER TERM.

French.....3	Constitutional Law.....3
International Law.....3	Logic.....3

SPRING TERM.

French.....3	Astronomy.....5
Political Economy.....3	Ethics.....2

Lectures on Meteorology to all Seniors during winter term.

TEXT BOOKS AND BOOKS OF REFERENCE.

MATHEMATICS.

Astronomy.....Young
Algebra.....Wells' University
Analytical Geometry.....Loomis
Calculus.....Taylor
Least Squares.....Merriman
Geometry.....Davies' Legendre
Mechanics.....Church
Trigonometry.....Davies
Descriptive Geometry.....Church

ENGINEERING.

Surveying.....Johnson
Railroad Surveying.....Carhart
Bridge Stresses.....Merriman
Civil Engineering.....Panton and Trautwine
Specifications.....Johnson
Hydraulic Engineering...Fanning
Sanitary Engineering.....Adams
Stereotomy.....Mahan
Stresses in Framed Structures.....Johnson and Bryant
Wellington's Earth Work Computation.
Foundations.....Patton
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Six hours of drafting per week are required throughout the course, and while the above subjects are being studied, numerous designs of engineering structures are made in the drafting room. In the Reading Room are placed the best of engineering periodicals, which give descriptions of all new works of special interest, and enable the student to keep up with the latest methods of construction.

In Land Surveying and Levelling, practice in using and adjusting instruments is given, and the most improved methods of map making, dividing up and parting off land, and supplying omissions in old surveys are taught, both in class room and field. The advanced surveying of the seventh term includes Topographical, Geodetic and City Surveying, with field work and practice in the drawing room.

The Highway Engineering of the last term is calculated to teach the student the essential principles of this branch of engineering, which has become so prominent.

In Railroad Surveying the field work consists of preliminary surveying, final location, slope staking, etc. Office work is given in making contour maps of the line, profiles, earthwork calculations, estimates of cost, etc. The lectures on Economic Railway Location enable the student to decide between two or more proposed railway lines, and to reduce expenditures in the operation of lines already built.

In the last term, students are required to make specifications and contracts for engineering projects of their own design. The course given in this term in Astronomy provides the engineer with as much of this subject as his profession requires.

EQUIPMENT

The department has a collection of designs for Free-hand and Perspective Drawing, and for modern houses, cottages, public buildings and architectural details. It has also collections of blue prints of the best modern bridges, including pivot draws, plate girders, and various types of pin-connected and riveted trusses, as well as of sewer details and sewer constructions.

The students have the use of the best modern instruments for angle and line measurement, including transits, compasses, levels, plane table, sextant, rods, chains, etc., and have much more practical engineering field work than is usually given, with the first-class instruments now used in modern engi-

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HISTORY AND POLITICAL SCIENCE The course of History affords a connected and comprehensive view of the history of civilization from the earliest times to the present. By investigating the causes which underlie the world's history, the instruction aims not only to train the memory and develop the reasoning faculties, but to fit men to deal wisely with those practical social questions of the present, upon whose solution the experience of the past throws the most

valuable light. Particular attention is given to the constitutional development of England and of the United States.

Political Economy is taught in the Senior year by means of text-books, lectures and informal discussions. A theoretical view of the subject is followed by a practical study of Land and Labor Questions, Socialism, Finance, Public Credit, the Principles of Taxation and Tariffs.

PSYCHOLOGY An examination of the different sources of knowledge, an analysis of the various mental states, and a classification of the faculties, are followed by a study of the relation of psychology to education, for the benefit of those students who may desire to engage in teaching. The laws governing the processes of acquiring and reproducing knowledge, the development of the faculties, together with the ways in which they interact one on another, and the play of motives, furnish the foundation of rational instruction and government, and are of special value to the teacher.

LOGIC Logic is taught by recitations and informal lectures. The objects of this study are to give the student vigorous mental discipline, training in exactness, and certainty in thinking, skill in detecting fallacy, and assistance in all the sciences by directing attention to those points of method in each science, which the cultivator is apt to neglect in his zeal for the subject matter of each.

MODERN LANGUAGES The chief aim of this department is to enable the student to read French and German with ease and fluency. By this method it is intended, not only to familiarize the ear with the spoken language, and thus to lay the best ground-work for conversation, but also to render easy and intelligible the grammar work and reading which follow.

After a thorough course in the essentials of grammar, accompanied with composition, and the reading of easy prose, various selections of prose and poetry from the best authors are read.

Much attention is given to the relation of the languages to

English and to each other, especially in the matter of derivative and cognate work.

To enrich the student's English vocabulary, to cultivate his taste for good literature, and to broaden his mental horizon, are further objects of the instruction.

RHETORIC, ENGLISH CRITICISM, ELOCUTION

The instruction in this department aims to deal in the most practical way with the composition and delivery of good English.

In Rhetoric, to which subject is devoted three hours each week during the Freshman year, much of the time is spent in the application of the principles of Rhetoric to the correction of faulty sentences. This instruction is supplemented during the remainder of the course, by lectures on the higher qualities of style, in connection with the essay work. As to punctuation, paragraphing, etc., students are required to present their essays and manuscript orations in proper form for publication.

In English Criticism, while it is sought to eradicate faults of style, especial attention is given to the development of the student's individuality and power of expression. An important feature is the critical examination of English prose masterpieces, which is made in connection with the study of English Literature. Essays and orations are carefully revised, returned to the writers for correction, and afterward read and criticised in class. That the student may learn to study his subject comprehensively, and to arrange its parts logically, instruction is given in the formation of essay outlines.

In Elocution, the chief ends sought are distinct and forcible utterance, just emphasis, and ease and naturalness of expression.

Much stress is laid upon the subject of extempore speaking. Practice is given also in declamations, essays, etc., and the endeavor is made to cause the acquirement of that ease and fluency in public speaking which is so important a factor in the various walks of life.

BOTANY The course in Botany begins in the spring term of the Junior year, and comprises Vegetable Morphology and Physiology, Plant Analysis, and the preparation of Herbaria.

The life history of vegetation is traced from seed through stems and roots, leaves, branches, buds, flowers and fruit, to seed again.

Gray's lessons are used, with lectures and field work. A few of the more difficult orders of Phænogams are studied. Attention is given to the various kinds of parasitic fungi so destructive to crops.

ZOÖLOGY Structural Zoölogy is taught by recitations and by laboratory demonstrations. Dissections and drawings are made of representative species in each group of animals. The purpose of this course is to give the student a definitive conception, by means of sense-images, of the characteristic structure of the leading modifications of the Animal Kingdom.

CLASSICS It is the aim of the Classical Department to make the work as thorough as possible, and to give the student a general literary culture. A thorough knowledge of grammatical form is considered necessary, and especial attention is given during the first year to etymology and syntax, vocabulary and idioms. In this manner not only is a thorough knowledge of the language obtained, but the greatest possible amount of mental discipline is derived. The similarity between the Greek and Latin on the one hand, and the English on the other, is pointed out, and especial study is given to roots from which English words are derived. The course is designed to embrace all the leading classes of composition in Greek and Roman Literature, and to afford accurate historical knowledge of the Greek and Latin characters and customs. Attention is given to right translation, and care is taken that the student translate into good English, that he may thus improve his knowledge of English in the study of the classics.

CHEMISTRY AND PHYSICS

The study of Chemistry is begun by students in all courses, in the Freshman year. It consists during this year of lectures and recitations upon general Inorganic Chemistry, in which the principles of the science are brought out and fully explained. Following this is a description of the properties of elements and compounds, and of the methods used for preparing them. To bring this work more clearly before the student, a large number of experiments are performed before the class, in many of which the students are permitted to assist.

In addition to the recitations, one period a week is devoted to laboratory practice, in which the student performs for himself the experiments given in the section room. The second year's work is intended for those who take the Chemical Course, and consists of daily laboratory practice. The work of this and of the following years is performed by the students themselves, under the direction of the professor and his assistant. Qualitative examinations, and as the student becomes more advanced, quantitative examinations of minerals, commercial products, fertilizers, drugs and medicines are made. For those students desiring to fit themselves for the study of Medicine and Pharmacy, special instruction is provided in the Chemical Laboratory.

Three hours a week, during the Sophomore year, of all courses, are devoted to the subject of Physics.

From this brief outline it will be seen that the aim in all departments is to teach the practical application of the principles of the text-books, and to give to our graduates that ability to apply theory to practice, which is too often sadly lacking from the ordinary course of instruction.

GENERAL INFORMATION.

SCHOLARSHIPS

Thirty State scholarships, covering tuition in any of the departments, and room rent, are now available.

Young men residing in Vermont, who may be desirous of obtaining a State scholarship, should apply first to the PRESIDENT for information as to whether a vacancy exists in their county. Learning of a vacancy, application for appointment should then be made to one of the county Senators.

In addition to the above a number of half-scholarships have been created by benevolent friends for the benefit of needy young men who desire to obtain an education.

There are also two Scholarships given by an Alumnus of 1892, and a third one given by another Alumnus.

Information regarding these scholarships can be obtained on application to the PRESIDENT.

EXPENSES

The charges for instruction, etc., are quite low, as may be seen by the following statement:—

Tuition, per academic year	$ 65.00
Room rent	15.00
Incidentals:—	
Library, Reading-room, Bath, etc., etc	10.00
Heat and Light	18.00
Board and Laundry, thirty-six weeks	117.00
Total for year	$225.00

Uniform complete, from $31. Overcoat, $18 to $25.

The charge for room rent is based upon the supposition that two students occupy a room. Rooms are unfurnished. Students bring bed linen, blankets and towels. Articles to be laundried should be plainly marked to ensure return.

A room can be furnished at a cost of about $15 to each occupant. Where the furniture is owned by the University an annual rental is charged.

Rooms are lighted by electricity and heated by steam, the charge being payable with the bill for the Fall Term.

Cadets who are appointed buglers receive $25 per year for their services.

The fee of $10 for incidentals is payable on the *first Friday*

Bills are rendered early in each term, and are payable within fifteen days after rendition, failing which suspension from class-room privileges may be enforced.

The diploma fee on graduation is $10.

Students in the Course in Chemistry are required to deposit $10 at the beginning of each term of the Sophomore, Junior and Senior years, the amount not consumed being returned at the end of each term.

In the Engineering course in Qualitative Analysis, $3 is charged in the second term of the Junior year. In the other courses a fee of $5 per term is charged for Qualitative Analysis.

A fee of $3 per term is charged for Determinative Mineralogy.

The fee for the Summer School in the Engineering Course is $5; persons not cadets, who are properly prepared, may join this school, the fee being $25. Subsistence and other necessary expenses are not included in these amounts.

A fee of $1 per term is charged members of the Freshman class taking the laboratory work in connection with Inorganic Chemistry.

These charges are for chemicals, and do not include breakage or waste of materials. The average expense for materials for students in the Chemical course is from $6 to $8 per term.

BUREAU OF INFORMATION The Bureau of Information is intended to serve in assisting graduates to obtain desirable positions as Teachers, Engineers, Chemists, etc. Those of the Alumni who desire such positions should send their addresses to the President, that they may receive the benefit of the numerous applications for men, of which he is frequently in receipt. The value of this feature is attested by the comparatively large number of graduates who, since its establishment, have found lucrative positions without trouble or expense to themselves.

THE REVEILLE The Cadets conduct a monthly magazine devoted to the interests of the University, the Alumni, and the Corps itself. Upon this paper excellent drill in journalism is afforded.

READING ROOM

The Reading Room is provided with the leading literary, political and technical periodicals of the day, under the direction of a committee composed of two members of the Faculty and one Cadet.

STUDENTS' SOCIETIES

Two fraternities, A Σ P and Θ X, exist among the students (having been founded some forty years ago), in which valuable literary work is done, while at the same time social privileges are enjoyed.

RELIGIOUS FEATURES

Prayers are held in the morning before the opening of academic exercises, the President officiating. On Sunday morning each Cadet is required to attend divine service with some one of the village congregations, the choice being made at the beginning of the term, and adhered to throughout the term. The religious societies of the village are: Congregational, Episcopal, Methodist, Roman Catholic and Universalist. While Cadets are held to a strict observance of the rules for religious exercises, and while all immoralities are carefully guarded against, yet the institution is in every respect non-sectarian.

ACADEMIC HONORS

A Cadet having a general average for the year of 90 or more receives "honorable mention;" having 90 or more in all branches for the year receives "very honorable mention." One receiving 90 or more in all branches for the whole course is graduated "with highest honors"; one receiving "honorable mention" for each year in the course is graduated "with very high honor." "Honorable mention" in any subject is made of any Cadet who receives 90 or more in the subject for the current year, or for one term, when the subject is completed in that term. If "honorable mention" is made in any branch, on the completion thereof, the recipient is graduated "with honors in———." If "honorable mention" is made in two or more branches, the recipient is graduated "with honors in ——— and ———."

These mentions are made at Commencement and published in the catalogue.

The names of the three students who stand highest in the

Military Department are reported to the Adjutant-General of the State and the Secretary of War, and are published in the Army Register of the year following.

THE SHELDON PRIZE SPEAKING Three prizes of $15, $10 and $5, respectively, are given to the three of the eight competitors from the Sophomore and Freshman classes who show the greatest merit in declamation or debate, in a contest held during Commencement week. These competitors are chosen at a preliminary contest held early in the spring term, *in which all members of both classes are required to participate*, as a portion of the course in rhetoricals. Prize winners in previous contests are debarred from competing.

THE AUSTIN TROPHY Mr. Fred T. Austin, M. S. (1888), has established an annual trophy, consisting of three medals, of gold, silver and bronze, respectively, given to the three Cadets making the highest score at target practice, the winners holding them for one year.

THE FACULTY GOLD MEDAL This medal is bestowed upon the member of the Senior class who has the highest academic standing from entrance to the close of the winter term of the Senior year.

THE THOMAS MEDAL Mr. Geo. D. Thomas, M. A. (1876), gives annually a gold medal to the Cadet who has the highest general average for the year ending with the close of the winter term: this competition is open to the three Senior classes.

THE SHUTTLEWORTH SWORD Lieut. E. A. Shuttleworth, U. S. A., M. S. (1891), gives annually, a regulation foot-officer's sword to the member of the Junior class having the highest military standing from entrance to the close of the winter term of the Junior year.

THE JUCKETT MEDAL Mr. Elmer R. Juckett, M. S. (1889), gives annually a gold medal to the member of the base ball team, either regular or substitute, who has the highest academic standing for the year.

THE SOPHOMORE PRIZES A silver medal is given by the President to each of the three members of the Sophomore class, whose general average, military and academic standing, respectively, are the highest.

THE FRESHMAN PRIZES A silver medal is given by the President to each of the three members of the Freshman class whose general average, military and academic standing, respectively, are the highest.

STANDING, ETC. Academic standing depends upon recitations; military standing upon marks of merit and demerit, together with proficiency in military duties; the general average is determined by combining the academic and military standings, the former counting two and the latter one. Immoralities, technical and minor offences, are marked with demerits, and are punishable other ways. Whenever purely academic duties require variation in special matters, the analogies of military usage are maintained so far as practicable.

UNIFORM A dark blue blouse, with standing collar; trousers dark blue with light red stripe; black cravat; standing collar; U. S. regulation forage cap; boots or high shoes of black leather; overcoat of the University pattern.

CONDITIONS A student deficient in work up to the end of the winter term of any year, is not ranked with the next class until such work is made up. No cadet is eligible for a Commencement honor who has not made up all deficiencies before the first Saturday of the spring term of his Senior year. The operation of this rule may be suspended by vote of the Faculty in those rare cases which warrant such action.

ATHLETICS A student is not permitted to take part in any athletic game, either singly or in a team representing the University, with the representatives of any other educational institution outside of Northfield, unless he has been a student in full standing from the beginning of the term in which the game is held, and has a passing standing in studies

and deportment. The registered colors of the University maroon and gold.

ATHLETIC PRIZE A silver medal is given by the President to Cadet making the highest number of points the field day in Commencement week.

LOCATION Northfield being located on the main line of Central Vermont Railway, is easy of acc from all directions. The Barracks are in direct telegraphic a telephonic connection with the offices and exchanges in V mont and elsewhere. There is probably no State that boast of a more healthful climate than Vermont. Northfiel in the central part of the State, ten miles from the Capi Montpelier. A popular resort in summer, it loses none of healthfulness in winter. The water is pure and clear, and University and village are well supplied from mountain sprin

REDUCED FARES The Central Vermont and Rutland Railro carry students for two cents per mile, on cer cates, to be obtained through the President.

ROUTINE OF DUTY.

Reveille in accordance with the Season; Police Call and spection of Quarters; Breakfast; Drill; Prayers; Study and citation hours; Dinner; Afternoon Roll Call; Study and Rec tion hours; Recreation; Supper; Retreat; Study hours; T (Lights out), 10 p. m.

Retreat on Friday, Saturday and Sunday nights at the f mation for supper. On Friday and Saturday nights, Taps 10:30 p. m.

On Friday and Saturday nights there is release from quart until 11 p. m. for Seniors, and until 10:30 p. m. for ot Cadets.

Additional evening privileges are granted to Cadets who e them by good conduct.

This routine is in effect from Retreat on the first day, u noon of the last day, of each term, with necessary modificati

Saturdays and Sundays; it is suspended (as on Sunday) om after breakfast until Taps on Thanksgiving Day; and also n Washington's Birthday, Dewey Day, and Memorial Day except during the exercises of the day), if they do not fall on Sunday. There is no Thanksgiving recess.

Cadets are expected to be in attendance during the whole of each term, unless granted leave of absence for special and weighty reasons. If a Cadet leaves during a term for any cause except continued sickness, no reduction is made in the term bill; in case of sickness, the loss is shared equally by the Cadet and the University.

ASSOCIATE ALUMNI AND PAST CADETS.

By action of the Trustees and in accordance with the amended charter, the Alumni and Past Cadets are entitled to elect one of the Board of Trustees each year. The meetings of the Association are held annually on the day preceding Commencement, at 10 o'clock in the forenoon.

OFFICERS FOR 1899-1900.

PRESIDENT,

JOHN B. JOHNSON, '79, *Northfield.*

VICE-PRESIDENTS,

WALDO P. CLEMENT, '72, *New York.*

FRED B. THOMAS, '95, *Montpelier.*

CHARLES A. PLUMLEY, '96, *Northfield.*

SECRETARY,

E. A. SHAW, '91, *Northfield.*

TREASURER,

PHILO R. HOEFLER, '95, *Northfield.*

Members of the Association not present may vote by written [illegible] at the annual election of Trustees. It is therefore im- [illegible]mber keep the Secretary informed of his

BOSTON ALUMNI ASSOCIATION.

ANNUAL REUNION IN BOSTON.

OFFICERS FOR 1900.

PRESIDENT,

N. L. SHELDON, '84.

VICE-PRESIDENTS,

ROBERT B. EATON, '40,

CHARLES F. KINGSBURY, '51.

GEORGE F. ABBOTT, '91.

SECRETARY,

GEORGE D. THOMAS, '76, *The Herald Office, L*

NEW YORK ALUMNI ASSOCIATION,

ANNUAL REUNION IN NEW YORK CITY.

OFFICERS FOR 1900.

PRESIDENT,

GRENVILLE M. DODGE, '53.

VICE-PRESIDENTS,

CYRUS H. FAY, '37
CLAYON E. RICH, '63.
WM. R. MEAD, '64.
WILLIAM M. RUMBAUGH, '76.

SECRETARY AND TREASURER,

ROBERT L. IRISH, '89, *443 Myrtle Avenue, Brooklyn, N. Y.*

WESTERN ALUMNI ASSOCIATION.

REUNION OF 1900 IN CHICAGO.

PRESIDENT,

WM. R. DORR, '73, *St. Paul.*

COMMENCEMENT, 1899.

DEGREES CONFERRED.

GRADUATION.—*Bachelor of Science:* FRED ALDRICH WEBSTER,
(IN CHEMISTRY) HEZEKIAH KIBBE BROOKS,
(IN CIVIL ENGINEERING) FRANK LEROY ALDRICH,
CHARLES HORACE EATON,
GEORGE PRENTICE LOVELL,
JOHN POOL MOSELEY.

MESSRS. LOVELL and MOSELEY are graduated "With very high Honor

NOW FOR THEN.—*Bachelor of Science:* LUTHER LOREN BAXTER of '51,
WALDO HENRY RICHARDSON of '7
CHARLES WRIGHT MEAD of '81.

IN COURSE.—*Master of Arts* - - - CHARLES ALBERT PLUMLEY of '96.

Master of Science - - LUTHER BURNHAM JOHNSON of '88
ELMER ROLAND JUCKETT of '80,
JOHN HUNTOON JUDKINS of '90.

HONORARY.—*Doctor of Laws* - - - EX-GOV. FREDERICK HOLBROOK,
EX-GOV. JOSIAH GROUT.

Master of Military Science:
CAPT. CHARLES EDGAR CLARK, U. S. NAV
(Late commanding battleship Oregon.)

Master of Arts: MAJ. EDMUND RICE, U. S. ARMY, '60.

'n torian and Senior Gold Medallist,

JOHN POOL MOSELEY.

Salutatorian,

GEORGE PRENTICE LOVELL.

Speakers,

FRANK LEROY ALDRICH,
HEZEKIAH KIBBE BROOKS,
CHARLES HORACE EATON,
FRED ALDRICH WEBSTER.

ar Department as Highest in Military Standing.

JOHN POOL MOSELEY,
CHARLES HORACE EATON,
GEORGE PRENTICE LOVELL.

s of Sheldon Prize Speaking Contest,

WM. EVERETT ROBERTSON,
JEFFERS FOSTER RICHARDSON,
MARTIN WILLIAM PECK.

Winners of the Austin Trophy,

RALPH WALES DUNSMOOR, '00,
DOUGLAS MUNROE BARCLAY, '02,
GEORGE DANA MURCH, '02.

Winner of Thomas Medal,
o the Winner of this Medal in '98.)

JOHN POOL MOSELEY, '99.

inner of the Shattuckworth Sword,

BERTON WILLIAM SIBLEY.

Winners of the President's Medals.

SOPHOMORES.

General Average, DEAN ORRIS CARR,

Military Standing, CHARLES EDWARD WHEATLEY,

Academic Standing, DEAN ORRIS CARR.

FRESHMAN.

General Average, ALFRED SWENSON,

Military Standing, GUY HENRY WATSON,

Academic Standing, MARTIN WILLIAM PECK.

Winner of the Athletic Medal,

HENRY WARD ORSER.

Honorable Mention,

General average for the year of '90 or more.

SENIORS.

HEZEKIAH KIBBE BROOKS,

GEORGE PRENTICE LOVELL,

HONORABLE MENTION IN SUBJECTS FOR THE YEAR.

SENIORS.

George Prentice Lovell, all Engineering Subjects.

John Pool Moseley, all Engineering Subjects.

JUNIOR.

Harold Samuel Richmond, all Engineering Subjects, Geology.

SOPHOMORES.

Wm. Steele Pingree, English Literature.

Jeffers Foster Richardson, Botany, Mineralogy, all Engineering Subjects.

Wm. Everett Robertson, French.

Charles Edward Wheatley, French.

FRESHMEN.

Willard Lyman Fuller, Drafting.

Martin William Peck, Mathematics, Drafting.

Robert Truman Phinney, French, Drafting.

Alfred Swenson, Mathematics, German, Drafting.

Laurence Bernard Stebbins, Drafting.

OMPETITORS IN PRIZE SPEAKING.

Irving Clendenen Ellis,	'01
Carl Danforth Hazen,	
Leonard Melvin Newton,	
Jeffers Foster Richardson,	
Wm. Everett Robertson,	
George Henry Clarke,	'02
Henry Ward Orser,	
Martin William Peck,	
Robert Truman Phinney,	
Guy Henry Watson,	

HAROLD SAMUEL RICHMOND, Cadet 1st Lieut.-Quartermas

JEFFERS FOSTER RICHARDSON, Cadet 1st Lieut.-Adjutant.

CADET COMPANIES.

"A."

CAPT. BERTON WILLIAM SIBLEY,

1ST LIEUT. SANFORD HARRIS ASHLEY,

2D LIEUT. DEAN ORRIS CARR.

"B."

CAPT. RICHARD GEORGE RICH,

1ST LIEUT. CHARLES EDWARD WHEATLEY,

2D LIEUT. WILLIAM EVERETT ROBERTSON.

SENIOR CLASS.

Name.	*Course.*	*Home Address.*
Sandford Harris Ashley,	C. E	*Milton*
Louis Franklin Chamberlain,	C. E	*Newbury*
Richard George Rich,	C. E	*So. Manchester, Conn.*
Jeffers Foster Richardson,	C. E	*Paterson, N. J.*
Harold Samuel Richmond,	C. E	*Northfield*
Berton William Sibley,	C. E	*Milton*

JUNIOR CLASS.

Name.	*Course.*	*Home Address.*
Fred Thomson Bass,	C. E	*Randolph*
Dean Orris Carr,	C. E	*Georgia Plains*
Harry Guy Clark,	C. E	*Champlain, N. Y.*
Irving Clendenen Ellis,	C. E	*Northfield*
Carl Danforth Hazen,	C. E	*Worcester, Mass.*
Leonard Melvin Newton,	C. E	*Olcott*
William Steele Pingree,	S. & L	*Hartford*
William Everett Robertson,	Ch	*St. Albans*
Charles Edward Wheatley,	C. E	*Montpelier*

SOPHOMORE CLASS.

Name.	*Course.*	*Home Address.*
Leon Frank Booth.	S. & L.	*Morrisville*
Willard Lyman Fuller,	C. E.	*Essex Junction*
Arthur Weston Hair,	C. E.	*Worcester, Mass.*
Harry Mansur Hobson,	C. E.	*Hastings, Me.*
Adelbert Anson Hutchinson,	C. E.	*Northfield*
Timothy Holland,	C. E.	*Northfield*
Henry Ward Orser,	S. & L.	*Newbury*
Martin William Peck,	C. E.	*Montpelier*
Robert Truman Phinney,	C. E.	*Montpelier*
Jesse Adelbert Pillsbury,	C. E.	*Essex*
Arthur Pettigrew Quimby,	Ch.	*Lyndon*
John Theodore Smith,	C. E.	*Russell, N. Y.*
Laurence Bernard Stebbins,	C. E.	*Northfield*
Alfred Swenson,	C. E.	*Wellesley, Mass.*
George Henry Watson,	C. E.	*Lyndonville*
George Frank Waugh,	Special.	*Lowell, Mass.*

FRESHMAN CLASS.

Name.	*Course.*	*Home Address.*
William Marsh Anderson,	A.	*Northfield*
Arthur Garfield Baker,	C. E.	*Northfield*
Earnest Stearns Ball,	C. E.	*Gardner, Mass.*
Richard Fleming Barker,	Ch.	*Bellows Falls*
Robert Arthur Bletzer,	C. E.	*Boston, Mass.*
Harry Knight Briggs,	C. E.	*Athol, Mass.*
James Squire Brownell,	C. E.	*Woodstock*
Daniel Black Burnette,	Special.	*Waltham, Mass.*
John Henry Byrd,	C. E.	*Randolph*
Henry Fitzgerald Causebrook,	C. E.	*Burlington*

Albert Bayley Chamberlin,	C. E.	*Newbury*
Elroy Albert Chase,	C. E.	*Northfield*
Henry Albert Chase,	Ch.	*Bradford Center*
Heman Baker Chase,	C. E.	*Hyannis, Mass.*
Frank Steel Drown,	C. E.	*Boston, Mass.*
Arthur John Dunton,	Special	*Lyndon Center*
Gilbert Clarence Eastman,	C. E.	*Milford, Mass.*
Robert Burns Farquharson,	C. E.	*So. Ryegate*
Clinton Rufus Farr,	C. E.	*Northfield*
William Reynolds Farrington,	S. & L.	*Brandon*
Kemp Russell Blanchard Flint,	S. & L.	*Montpelier*
John Harold Foster,	C. E.	*Waltham, Mass.*
Harold Sherman Frost,	Special	*Lyndonville*
Samuel Leslie Fuller,	C. E.	*Bennington*
Charles Franklin Gallup,	C. E.	*West Woodstock*
Eliot Granger,	C. E.	*Roxbury, Mass.*
Emilio Guerra y Giro,	C. E.	*Santiago de Cuba*
Louis Henri Janvrin,	C. E.	*Saratoga Springs, N. Y.*
Francis Byron Judd,	C. E.	*Des Moines, Ia.*
John Charles McCarthy,	C. E.	*Brasher Falls, N. Y.*
Stanley John Parsons,	C. E.	*Elmore*
Harry Arthur Peabody,	C. E.	*Chester*
Charles Louis Pelkey,	C. E.	*Waltham, Mass.*
John Tinney Powers,	C. E.	*Bennington*
Willis Garfield Prior,	C. E.	*Underhill*
William Franklin Robinson, Jr.,	C. E.	*Dorchester, Mass.*
Fred Percival Rogers,	Special	*Orchard Lake, Mich.*
Fred Newman Snelling,	C. E.	*Haverhill, Mass.*
Marshall Morill Stocker,	C. E.	*Danville*
Frank Strong.	C. E.	*Philadelphia*
William Clarence Thompson,	C. E.	*Northfield*
Francis Bowen Upham,	Ch.	*Bellows Falls*
Merrill Dole Wheeler,	C. E.	*Proctorsville*
Allan Rawson Williams,	C. E.	*Jericho*
Seth Williams,	C. E.	*Foxboro, Mass.*
Harry Oakes Young,	C. E.	*Lancaster, N. H.*

RECENT GRADUATES.

1890.

Charles Frederick Parker, Civil Engineer, Thompson & Co., *Revere, Mass.*
Charles Edwin Collins, City Engineer..... *St. Albans, Vt.*
Seth Burton Adams, Boiler Inspector..... *Boston*
Dexter Wadleigh Lewis, Clerk..... *Brooklyn, N. Y.*
Herman Dressel, Jr., County Examiner, Prin. High School, *Springfield, Vt.*
Homer John Dane, Pharmacist..... *Northfield, Vt.*
Ira Rich Mower, representing Parke, Davis & Co., in..... *Atlanta, Ga.*
John Huntoon Judkins, Physician..... *Northfield, Vt.*

1891.

George Franklin Abbott, Civil Engineer, West End Street Railway, *Boston*
*The Rev. Alfred Frederick Booth.....
Edward Aiken Shuttleworth..... *1st Lieut. 12th Inft., U. S. A.*
William Hibbard Sprague, Merchant..... *East Brookfield, Vt.*
Harry Gordon Woodruff, Collection Clerk, Amoskeag National Bank, *Manchester, N. H.*
Ethan Allen Shaw, Professor..... *Norwich University.*
Carl Gilman Dole, B. & M. R. R..... *Woodsville, N. H.*
Heber Calvin Cady, Assistant Cashier..... *Northfield Savings Bank*
Burton Wiley Farnham, City Engineer's Office..... *Lowell, Mass.*
Fred Miner Goodhue..... *Lowell, Mass.*
Percy Gates Smith, City Engineer's Office..... *Worcester, Mass.*
Clarence Bonnett Riggs, Civil Engineer..... *New Rochelle, N. Y.*

*Deceased.

1892.

Ephraim Wesson Clark, Civil Engineer, Elevated Railway.....*Boston*
Joseph Spafford Craigue, Civil Engineer.....*Boston*
Charles John Clement Evans, Civil Engineer.....*Woonsocket, R. I.*
Charles Warner Pierce, Editor of the *Herald*.....*Northampton, Mass.*
Robert Henry Perse Ford, Civil Engineer of....*Central Vermont R. R.*
Edmund Henry Ryan, Civil Engineer.....*Denver, Col.*
Dewitt Clinton Webb, Civil Engineer.....*Boston*
Benjamin Whitney Gleason.....*Philadelphia*

1893.

George Leslie Andrews, Pharmacist.....*Newbury, Vt.*
Edward Cushman Bennett, with B. & R. R. R.....*No. Bennington, Vt.*
Eben Watson Gaynor, Dentist.....*Auburn, Me.*
Frank Albert Gokey, in business at.....*Everett, Mass.*
Frank Dudley Holbrook, Civil Engineer.....*Boston*
Wilber Edson Hurlburt, Lawyer.....*Oshkosh, Wis.*
Frank Alden Manuel, Manufacturer.....*Richford, Vt.*
Hiram Nathaniel Mattison, Cashier National Bank.....*Chelsea, Vt.*
Oren Luther Pease, Pharmacist.....*Hartford, Ct.*

1894.

Leo Bertram Clogston, Draftsman.....*Jamaica Plain, Mass.*
Ernest Willard Gibson, Attorney at Law.....*Brattleboro*
Harvey Levi Hinman, in business at.....*Coös, N. H.*
Howard Clinton Holden, Civil Engineer, with Thompson & Co., *Revere, Mass.*
Leroy Chittenden Hulburd, Topographical Engineer.....*New York City*
James E. Ross, Topographical Engineer.....*Savannah, Ga.*
Raymond Underwood Smith, Attorney at Law.....*Wells River, Vt.*
* George Eber Storrs.....
Hal Holmes Stearns, Topographical Engineer.....*Winthrop, N. Y.*
Harlan Badger Wasson, Civil Engineer, with Massachusetts Highway Commission.

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*Deceased.

Arthur Gilbert Andrews, Law Student ..... *Washington, D. C.*
James Leland Averill ..... *Berlin Bridge Company*
George Horace Briggs ..... *Northfield*
Charles Sargent Carleton, Paper Mill ..... *Cumberland Mills, Me.*
Herbert Sawyer Clark ..... *Northfield*
John Leslie Collins, City Engineer's Office ..... *Cambridge, Mass.*
Harry Ray Dole, in business ..... *Northfield*
Phil Sheridan Howes, School Teacher (1st Vt. Vols.) ..... *Northfield*
Edward Michael McCarty ..... *Windsor*
Charles Albert Plumley, Principal High School ..... *Northfield*
Carroll John Scribner, Civil Engineer ..... *with C. V. R. R.*
Leon Anson Skinner, in business ..... *So. Royalton*
Herbert Eugene Caswell, School Teacher ..... *St. Albans Bay*

1897.

Winfred Ballard Carr ..... *2nd Lieut., 2nd Artillery, U. S. A.*
Henry Vail Dunham, with Wm. A. Hall ..... *Bellows Falls*
William Arba Ellis, (Historian, N. U.) Military Academy .. *Kentwood, Mo.*
* William Clarence Spafford .....
Donald William Sutherland, Civil Engineer ..... *Lennoxville, P. Q.*
Charles Ernest Walker (U. S. Vol. Signal Corps) ... *Cumberland Mills, Me.*

* Deceased. Member 1st Vt. Vols).

1898.

Edwin Booth, Graded School ..... *Morrisville*
Lewis Charles Bump ..... *Brandon*
James Wilbur Cook, General Electric Co ..... *New York*
Frank Winslow Denison ..... *Rutland-Canadian R. R.*
Paul Addison Dinsmoor, Law School ..... *Lawrence, Ka.*
Charles Edward Duggan .....
George Harold Ellis .....
Leonard Joel Parker ..... *Northfield*
George Everett Talbot, Assistant Engineer ..... *Central Vermont Ry.*
Arthur Ellsworth Winslow, Instructor, Rose Polytechnic
Institute ..... *Terre-Haute, Ind.*

1899.

Frank Leroy Aldrich ..... *Northfield*
Hezekiah Kibbe Brooks, with Wm. A. Hall ..... *Bellows Falls*
Charles Horace Eaton, Assistant Engineer ..... *Ecuador Survey*
George Prentice Lovell, Surveying ..... *Springfield, Mass.*
John Pool Moseley, Commandant Cadets, Norwich University .....
Fred Aldrich Webster, Medical Student ..... *Boston*

N. B.—For graduates before 1890, see Alumni Catalogue.

Partial List of Roads upon which Graduates and Past Cadets of Norwich University have been employed as Consulting, Constructing, Chief, Assistant or Division Engineers:

Albany Northern,
American Central,
Arexuipa & Puno (Peru),
Auburn & Syracuse,
Baltimore & Ohio,
Boston & Lowell,
Boston & Providence,
Boston & Worcester,
Burlington & Missouri,
Camden & Atlantic,
Cincinnati Western,
California & Texas,
Cayuga & Susquehanna,
Central Vermont,
Central Military Tract,
Chicago & Alton,
Chicago & Danville,
Chicago & Northwestern,
Cincinnati, Peru & Chicago,
Cleveland & Pittsburg,
Columbus, Piqua & Indiana,
Connecticut & Passumpsic,
Connecticut Valley,
Corpus Christi, San Diego & Rio Grande,
Dallas & Wichita,
Delaware & Western,
Denver & Gulf,
Denver Pacific,
Denver, Texas & Fort Worth,
Des Moines & Northern,
Des Moines & Northwestern,
Drummond Co., (Quebec),
Elkhorn,
Everett & Monte Cristo,
Fitchburg,
Fort Wayne & Chicago,
Fort Worth & Denver City,
Gilman, Clinton & Springfield,
Grand Rapids & Lake Shore,
Hartford & Springfield,
Hoosac Tunnel & Saratoga,
Housatonic,
Houston & Texas Central,
Houston, East & West Texas,
Hudson River,
Huntingdon & Broad Top,
Illinois & Wisconsin,
Illinois Central,
Indianapolis, Peru & Chicago,
International & Great Northern, (Texas),
Ionia & Lansing,
Jeffersonville,
Junction City & Fort Kearney,
Kansas Central,
Kansas City & Southern,
Kansas City, Emporia & Southern,
Kansas City, Memphis & Mobile,
Kansas City Street Railway,
Kansas Pacific,
Lackawanna & Bloomsburg,
Lake Ontario Shore,
Leavenworth, Lawrence & Fort Gibson,
Lee & Hudson,
Mahanoy & Susquehanna,
Manchester & Keene,
Mansfield, Coldwater & Lake Michigan,
Marietta & Cincinnati,
Marion & McPherson,
Massachusetts Central,
Memphis & Charleston,
Memphis & La Grange,
Mexican International,

Mexican National,
Mexican Southern,
Milwaukee & Lake Winnebago,
Milwaukee & Mississippi,
Milwaukee & Watertown,
Minneapolis & Duluth,
Mineral Belt,
Minneapolis & North Western,
Minneapolis & St. Cloud,
Mississippi & Missouri,
Missouri, Kansas & Texas,
Mobile & Ohio,
Monterey & Mexican Gulf,
Montpelier & Wells River,
Mount Washington,
Nashville & Decatur,
New Jersey Central,
New Orleans & Pacific,
Oregon Short Line,
Penn Yan, Keuka Park & Branchport,
Peoria Branch, Rock Island,
Peoria & Burlington
Peoria & Oquawka,
Pittsburgh, Fort Wayne & Chicago
Pittsfield & North Adams,
Plattsburgh & Montreal,
Pueblo & Arkansas Valley,
Pueblo & Salt Lake,
Racine & Mississippi,
Rock River Valley Union,
Rutland,
Rutland & Burlington,
St. Croix & Lake Superior,
St. Louis, Kansas City & North
St. Paul & Chicago,
San Antonio & Mexican Gulf,
San Francisco, (Missouri),
Saratoga & Whitehall,
Sedalia, Warsaw & Southern,
Shepaug Valley,
Southern Minnesota,
Sugar River,
Sullivan,
Sunbury & Erie,
Suncook Valley,
Texas Pacific,
Toledo, Oscaloosa & Western,
Transia, (Mexico),
Union Pacific,
Utica & Oswego,
Utica & Schenectady,
Vermont & Canada,
Vermont Central,
Vicksburg & Meridian,
Wabash,
Waterbury & Stowe,
West End, (Boston),
Whitehall & Plattsburg,
Wilmington & Reading,

and some 50,000 miles of preliminary surveys in addition.

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CATALOGUE

OF

NORWICH UNIVERSITY,

THE MILITARY COLLEGE

OF

THE STATE OF VERMONT.

1901.

EIGHTY-SECOND ACADEMIC YEAR.

ST. ALBANS, VT.:
Messenger Company Print.
1900

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ASTOR, LENOX AND
TILDEN FOUNDATIONS.
1901

CALENDAR.

FALL TERM, 1900.

September 13, Thursday—Term began.
December 10-13—Term Examinations.
December 13, Thursday—Term ends at noon.

WINTER TERM, 1901.

January 3, Thursday—Term begins at Retreat.
February 15-16—Fraternity nights.
February 22, Friday—Washington's Birthday.
March 18-21—Term Examinations.
March 21, Thursday—Term ends at noon.

SPRING TERM, 1901.

April 4, Thursday—Term begins at Retreat.
May 1, Wednesday—Dewey Day.
May 30, Thursday—Memorial Day.
June 3, Monday—Senior Examinations.
June 10-12—Final Examinations.
June 13-22—Annual Encampment.
June 23—Baccalaureate Sermon.
June 24, Monday—Austin Rifle Competition.
June 25, Tuesday—Prize Speaking.
June 26, Wednesday—Annual Meeting of Trustees, Class Day, Alumni Exercises.
June 27, Thursday—Commencement Day.
June 28, Friday—Entrance Examinations, 10:30 a. m.

FALL TERM, 1901.

September 19, Thursday—Entrance Examinations, 10:30 a. m.; Term begins at Retreat.

NORWICH UNIVERSITY.

THE MILITARY COLLEGE
OF THE STATE OF VERMONT.

NORTHFIELD, VT., JANUARY 1, 1901.

REPORT OF THE

BOARD OF VISITORS

TO NORWICH UNIVERSITY,

FOR THE TERM ENDING

DECEMBER 1, 1900.

Published by Authority
of a joint resolution of the
General Assembly of 1900.

Report of the Board of Visitors to Norwich University.

In accordance with the provisions of No. 33 of the laws of 1898, being an Act providing for a Board of Visitors and to increase the efficiency of Norwich University, the Board of Visitors appointed under that Act herewith submit to your excellency their report for the biennial term.

The Board have made three official visits to the institution and have examined the account of expenditures of the sums appropriated under the Act, and the scope of the work contemplated by the various courses of instruction as laid down in the curriculum, and the facilities at the command of the officers of the institution for carrying out the provisions of its charter.

We observe that the institution is practically and essentially a Scientific and Military University, although the courses in Arts and Literature are by no means neglected.

The number of students on the rolls for the year ending June 1899 was fifty four, of which thirty were State Scholarships, three Alumni Scholarships, eleven paying students and ten free.

For the year ending June 1900, the number of students enrolled was seventy nine, of which thirty were State Scholarships, three Alumni Scholarships, twenty paying students and twenty six free. Thus the State appropriation, provided in the Act above referred to, has enabled the institution to increase its attendance by twenty-five additional students of which nine were paying students and sixteen free. Not only that but the facilities and accommodations have been improved thereby inviting an increasing attendance; therefore the immediate effect of this Act has been to increase the number of students, as no Vermont boy who is unable to pay his tuition has been debarred from admission for this cause, free scholarships having been granted in excess of the thirty Senatorial Scholarships as provided under former legislation.

We find that the accounts of the expenditure of the sums appropriated under this Act are kept separate from the general accounts of the institution and we have examined the same and compared the vouchers. We find the expenditures to have been judicious and for the promotion of the objects for which the institution was chartered, which is in accordance with the provisions of this act.

We note in the items of expenditure a considerable sum for various repairs and improvements of the buildings and in providing additional comforts for student life, which all colleges must provide if

they hope to secure desirable students. Steam heat has been added, electric lights furnished and apparatus added to the equipment.

With this appropriation a new drill hall, in size 40x100, has been built during the past year so that military drill and athletic sports can be carried on during the winter months. The drill hall is not fully completed, yet it is serviceable and with its completion will add much to the equipment of the University.

The State will gain much more than it costs in having its citizenship strengthened by the addition of so many sturdy young men educated in the Sciences and disciplined in a Military school. A town gains more than it costs to maintain public schools, and what the public school represents to the town, a Military and Scientific College represents to the State.

Aside from the educational features of Norwich University, the military forces of the State being volunteer and reserve, this institution is of inestimable value as a Military Training School.

The records show that over six hundred cadets of Norwich University have served in the Army and Navy at various periods: the Mexican, Civil and Spanish wars, with their call for volunteers, brought N. U. men into service of the country; quite a number of her cadets have also served in the regular Army, there being now seventeen representatives in active service.

The good effects of the training received there are shown in other professions also: as it is to be expected, the greater number of her men have pursued the course in Civil Engineering, and some of the best of our railway engineering has been done in whole, or in a large part, by her students: her men have been successful also in the pulpit, as well as in the legal and medical professions.

The value of her military training is well shown by the fact that within fifteen days after the declaration of war with Spain, the President of the University was able to inform the Governor that he had a list of men who had authorized him to tender their services, sufficient in number to officer an entire regiment.

The beneficial results of the appropriation referred to seem a beginning, which warrants the prediction that in time to come with this aid available, a large and powerful institution redounding much to the credit of the State will be the logical results.

Respectfully submitted.

E. W. SLAYTON,
F. E. STEELE,
F. G. BUTTERFIELD,
H. G. MARVIN,
MASON S. STONE.
} Board of Visitors.

To His Excellency,
E. C. SMITH.

NORWICH UNIVERSITY

WAS founded at Norwich, Vermont, in 1819, by Captain Alden Partridge, and was known as the American Literary, Scientific and Military Academy. It retained the name until November 6, 1834, when a charter of incorporation was granted it by the State of Vermont, under the name of NORWICH UNIVERSITY, which thus became the *first* Scientific and Classical, as well as the first Military, Collegiate Institution in the United States. Its success was immediate, and every State in the Union had, in its early days, representatives among its students.

In March, 1866, the buildings at Norwich were destroyed by fire, and the University was removed to Northfield, Vt., where the citizens had offered fine grounds and commodious barracks.

It is a characteristic and peculiar feature of the institution that, in addition to the usual collegiate courses, the charter requires "a course of military instruction, both theoretical and practical." For this reason the discipline is, of necessity, military in form and principle, being modeled after that of the National Military Academy at West Point, of which Captain Partridge was, at one time, the Superintendent; and from its foundation to the present time it has held the distinction of being the foremost military institution in the land, West Point and Annapolis alone excepted. Her sons have done yeoman service in both Army and Navy; from her founder, Captain Partridge, and her second President, Truman B. Ransom, who resigned his chair to lead the 9th New England in the Mexican War (falling at the head of his regiment at the assault of Chapultepec, in September, 1847), through a long line of distinguished men in the Civil and Spanish Wars, until to-day, when her graduates are still to be found in both the services.

The late General William Tecumseh Sherman said of the University: "This military school at one time almost rivaled the National Academy at West Point, and there many a man, who afterward became famous in the Mexican and Civil Wars, first drank in the inspirations of patriotism and learned the lessons of the art of war."

To the discipline and instruction received at this institution, is due the reputation acquired by many of the New England (and other) regiments; and the "Green Mountain Boys" (whose record in the Civil War is second to none) owe their success and renown, largely to the training received within her halls. The Honor Roll of the Civil War contains the names of many generals (among them those of G. P. Buell, Burton, G. M. Dodge, Lander, Milroy, T. E. G. Ransom, Truman Seymour, Seth Williams, P. V. Hagner, late Chief of Ordnance U. S. A.), a large number of colonels and other field officers, also of line and non-commissioned officers, together with Rear Admirals Paulding and Carpenter, Captains Ward and Colvocoresses, Lieut.-Commander Dewey, and many others of the Navy.

More than fifty of her Past Cadets served in the late war with Spain, chief among them being Admiral Dewey, the Victor of Manila, Brig.-Gen'l Williston, Col. Edmund Rice (of whom General Miles has said that "he had the best regiment in the Army of the Potomac"), Captain Converse and Commander Colvocoresses of the Navy, and others of less rank in both branches of the service. A number of her Past Cadets are serving in both Army and Navy on the active list; and with the increased demand for officers of the Army which West Point is unable to supply, no better preparation can be found for obtaining a commission through the ranks than the courses offered here.

It has always been, and still is, the highest endeavor of the Trustees and the Faculty to maintain, in every respect, the high military character of the University, bearing in mind the fact that the aim of any scholastic institution should be not merely

MILITARY STAFF.

CHARLES SARGENT CARLETON, Captain, V. N. G.,
Commandant.

WILLIAM B. MAYO, M. D.,
Surgeon.

The Rev. WILLIAM S. HAZEN, D. D.,
Chaplain.

JAMES EVANS,
Armorer.

BOARD OF VISITORS

appointed by the Governor, in pursuance of an act of the Legislature, approved November 29th, 1898, for the Term ending December 1st, 1902:

HON. HEMAN W. MARVIN ..... *Alburgh.*

FRED E. STEELE ..... *Gaysville.*

JOSEPH D. DENISON ..... *Randolph.*

FREDERICK P. CARLETON ..... *Montpelier.*

WALTER E. RANGER ..... State Superintendent of Education, *Ex-officio.*

FACULTY.

THE REV. ALLAN D. BROWN, LL. D.,
COMMANDER, U. S. NAVY (RETIRED),
President.

JOHN B. JOHNSON, M. A., C. E.,
Professor of Mathematics and Civil Engineering.
(With the rank of Major.)

CHARLES C. BRILL, M. A., *Professor of Chemistry.*
(With the rank of Major.)

HERBERT R. ROBERTS, M. A.,
Professor of Latin, Greek and English.
Secretary of the Faculty.
(With the rank of Captain.)

CHARLES S. CARLETON, B. S., Captain V. N. G.,
Professor of Military Science and Tactics,
and Professor of Field Engineering.

ETHAN ALLEN SHAW, C. E., M. A.,
Professor of Physics and Drawing.
(With the rank of First Lieutenant.)

ARTHUR E. WINSLOW, B. S.,
Asst. Professor of Mathematics and Civil Engineering.
(With the rank of Second Lieutenant.)

CARL V. WOODBURY, B. A.,
Asst. Professor of History and Modern Language.
(With the rank of Second Lieutenant.)

WILLIAM E. ROBERTSON, *Instructor in Chemistry.*
HARRY G. CLARK, *Instructor in Drawing.*

Those desiring to take the course in

ARTS,

in addition to all the above, are examined in

GREEK:

Xenophon's "Anabasis," four books, or one hundred pages Goodwin's Greek Reader; Homer's "Iliad," two books.

Graduates from approved High Schools or Academies may be admitted upon certificates. Candidates for advanced standing must pass satisfactory examinations in the studies already completed by the class which they propose to enter, as well as in those required for admission. Those, however, from other colleges should bring certificates of honorable dismissal, and marks showing standing. The latter may, on approval by the Faculty, be taken in lieu of examination. No student under sentence of suspension or expulsion from any other institution will be received. Students are considered as on probation for eight weeks.

COURSES OF INSTRUCTION.

MILITARY COURSE.

OBLIGATORY FOR ALL STUDENTS.

Exercises, Drills or Lectures daily, throughout the four years.

FALL TERM.

Settings up.
Calls.
Manual of Arms.
School of the Company.
Extended Order Drill.
Bayonet Exercise in doors in bad weather.

WINTER TERM.

Manual of the Sword.
Lectures on Military Engineering
Recitations in Drill Regulations for all but Freshmen; in signal code

SPRING TERM.

Artillery Drill.
Rifle Practice.
Battalion Drill.
Ceremonies.
Signaling.
Lectures on Customs of the service.
Encampment.

The Cadets are at all times under military discipline, and strict observance of military customs is required.

Cadets are detailed as Officer of the Day, of the Guard, etc., in their turn, are instructed in making out the different kinds of military reports, and are trained in the duties incident to field or garrison.

The Cadet Officers are appointed in accordance with their academic and military standing and deportment.

EXAMINATIONS Are held from time to time in the tactics, orders, duties and customs of military service, in order to insure familiarity with them.

ENCAMPMENT An Encampment of ten days is held near the close of the spring term, and the Cadets receive instructions in the details of camp life, together with guard duty. This encampment is an essential portion of the Military Course and all Cadets are required to be present thereat, as a part of the obligation assumed by them upon enlistment. There is at this time an inspection by the Adjutant-General of the Vermont National Guard, or his assistant.

PRACTICE MARCHES The Encampment may be varied by practice marches about the State. During the encampment, and on the march, the Cadets are at all times under the command of the Commandant, who is responsible for their conduct.

ACADEMIC COURSES.

Four regular courses have been established, as follows:

I. Civil Engineering.
II. Arts.
III. Chemistry.
IV. Science and Literature.

The late General William Tecumseh Sherman said of the University: "This military school at one time almost rivaled the National Academy at West Point, and there many a man, who afterward became famous in the Mexican and Civil Wars, first drank in the inspirations of patriotism and learned the lessons of the art of war."

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It has always been, and still is, the highest endeavor of the Trustees and the Faculty to maintain, in every respect, the high military character of the University, bearing in mind the fact that the aim of any scholastic institution should be not merely

to graduate scholars, but to make men. To this end special attention is paid, not only to drill in the manual of arms, the execution of tactical movements and the necessary routine of a post, but also to the development of honor, truth, candor, self-respect and loyalty. While the discipline is strict, it is not severe, the government being largely by privileges rather than by restrictions; the student being taught to do the right thing at the right time and in the right way. That discipline of this sort fits men not merely for military, but also for civil, life is shown by the success of Past Cadets in the clerical, legal, medical, engineering, journalistic and other professions. Some of the best of our railway engineering* (such as that of the Union Pacific, Northern Pacific, Denver & Rio Grande, Mexican Central, Northwestern, Great Northern, and many of the roads in Central and South America) has been done in whole or in large part, by men who have been students at this institution, and many of her graduates are to be found to-day in places of trust and responsibility.

The State of Vermont has acknowledged the University by recognizing her as The Military College of the State, by the appointment of a Board of Visitors and by making her Corps of Cadets a part of the State National Guard, in which each member is regularly enlisted. The State thus places a high valuation upon the institution as a training school for the citizen soldier, and attests its gratitude for services already rendered. For like reasons, the United States Government has detailed an officer† from the active list of the Army for duty as Professor of Military Science and Tactics, and sends an inspecting officer† yearly, to note the condition of the discipline and drill.

That these inspectors find a satisfactory state of affairs is shown by their reports.

> The Inspector for 1893 said: "Although the numbers are small, it is due the institution to say that in its military system, discipline and instruction, *it stands at the head of all the colleges in this inspection.*"

* See pages 56–57. † Owing to the exigencies of the service these details have been temporarily withdrawn.

The Inspector for 1896 said: "The appearance, bearing, steadiness and behavior were excellent. * * * I was favorably impressed with the condition of the military department."

The Inspector for 1897 said: "An inspector finds himself out of place here, except in so far as his commendation may be of some use. Parents who are in search of some institution where self-control and self-discipline (all-important factors in future success) are made prominent features, and receive special attention in the education, might do well to visit Norwich University.

"The system of discipline inaugurated by Captain Partridge in 1834 is still in force here, and is only modified to suit the higher condition of cultivation of the student. The discipline is still as strong, and the cadet is under a strict military regime every day and every hour that he spends at the University. He is marched to his meals, to prayers, to classroom and to church. He is taught to be neat in his person, regular in habits and methodical in work."

The State Inspector (an officer of the Army detailed for service with the Vermont National Guard), also makes a yearly visit and reports to the Governor. In 1896 this officer said:

"These students are able to execute every movement in infantry drill regulations and, as far as possible without horses, artillery movements, with a correctness and precision not to be expected of any other body of troops in the State."

In 1899, this officer said;

"The entire drill was excellent. Discipline, apparently excellent. The camp was perfectly clean and well kept; arms, accoutrements and clothing were clean and well kept; the uniform is neat and appropriate, and the young men were enthusiastic in their military duties."

By her work for more than three-quarters of a century, Norwich University merits the confidence and generous support of the general public.

ADMISSION Candidates for admission must be at least sixteen years of age and must present satisfactory evidence of good moral character. Application blanks will be furnished by the President when requested. No person will be admitted who is less than five feet in height, or who is deformed, or afflicted with any disease or infirmity which would render him unfit for military duty, or who has at the time of presenting himself any disorder of an infectious or immoral character.

After matriculation and before enlistment, a physical examination is held by the surgeon, and this examination is repeated at intervals throughout the course. As a proof of the value of the physical exercise afforded by the military training, it may be stated that a recent freshman class showed an average increase in weight of 6.69 pounds; in chest expansion of .71 in.; in girth of thigh of 1.28 in.; in girth of calf of .47 in.; in girth of arm of .41 in.; and in girth of fore-arm of .37 in.; in no case was there a decrease.

All candidates are examined in the following subjects:

MATHEMATICS.

Arithmetic; Algebra to Quadratics; Geometry: first four books, Davies' Legendre, or an equivalent.

ENGLISH LANGUAGE.

Grammar; Composition with special attention to punctuation and the use of capitals.

GEOGRAPHY.

Physical and Political Geography.

HISTORY.

History of the United States.

Those desiring to take the course in

SCIENCE AND LITERATURE,

are examined also in

LATIN:

Cæsar's "Commentaries," four books, or Sallust's "Cataline;" Virgil's "Æneid," six books; Cicero, four orations.

Those desiring to take the course in

ARTS,

in addition to all the above, are examined in

GREEK:

Xenophon's "Anabasis," four books, or one hundred pages Goodwin's Greek Reader; Homer's "Iliad," two books.

Graduates from approved High Schools or Academies may be admitted upon certificates. Candidates for advanced standing must pass satisfactory examinations in the studies already completed by the class which they propose to enter, as well as in those required for admission. Those, however, from other colleges should bring certificates of honorable dismissal, and marks showing standing. The latter may, on approval by the Faculty, be taken in lieu of examination. No student under sentence of suspension or expulsion from any other institution will be received. Students are considered as on probation for eight weeks.

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Calls.
Manual of Arms.
School of the Company.
Extended Order Drill.
Bayonet Exercise in doors in bad weather.

WINTER TERM.

Manual of the Sword.
Lectures on Military Engineering or Military Science and Art of War for Seniors and Juniors.
Recitations in Drill Regulations for all but Freshmen; in signal code for Freshmen.

SPRING TERM.

Artillery Drill.	Signaling.
Rifle Practice.	Lectures on Customs of the service
Battalion Drill.	Encampment.
Ceremonies.	

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ACADEMIC COURSES.

Four regular courses have been established, as follows:

I. Civil Engineering.

II. Arts.

III. Chemistry.

IV. Science and Literature.

The courses in Civil Engineering and Chemistry have a distinctly practical bearing, and give a thorough training for these technical professions.

The course in Arts embraces the usual classical course with French or German, Physical Science, etc., etc.

The course in Science and Literature is intended for such as may not wish to pursue a full course in Classics or Mathematics, or one for a distinctly scientific profession. It is so arranged that it may be taken either with or without Latin. Candidates for this course without Latin will be required to show an equivalent amount of work in other branches.

Each of these courses extends through four years, and is intended to give the student a liberal preparation for the duties of life.

Changes are made in the course in Chemistry to meet the wants of students preparing for Medicine and Pharmacy.

I. THE COURSE IN CIVIL ENGINEERING.

Leading to the degree of Bachelor of Science in Civil Engineering.

NOTE.—The figures after each subject indicate the number of recitation periods of sixty minutes each per week.

FRESHMAN YEAR.

FALL TERM.

Algebra 5	Rhetoric 3
French or German 3	Free-hand Drawing 4
Inorganic Chemistry ..... 3 (text 2, laboratory 1)	

WINTER TERM.

Geometry 5	Rhetoric 3
French or German 3	Lettering 2
Inorganic Chemistry ..... 3 (text 2, laboratory 1.)	Tinting and Shading 2

SPRING TERM.

Trigonometry 5	Rhetoric 3
French or German 3	Mechanical Drawing 4
Inorganic Chemistry ..... 3 (text 2, laboratory 1.)	

SOPHOMORE YEAR.

FALL TERM.

Analytical Geometry.....5
French or German.....3
Mechanics and Heat.....3
Land Surveying, Leveling and Field Work.....6
(text 2, field work 4.)
Detail Drawing, Tracing Blue Prints.....6
Descriptive Geometry and Drafting (begun in 10th week).....6

WINTER TERM.

Differential Calculus.....5
French or German.....3
Acoustics and Optics.....3
Descriptive Geometry and Drafting.....6

SPRING TERM.

Integral Calculus.....5
Advanced Surveying, Topographical and Municipal.....7
(text 3, field work 4.)
French or German.....3
Electricity and Magnetism.....3
Descriptive Geometry.....6

JUNIOR YEAR.

SUMMER SCHOOL OF THREE WEEKS.

FALL TERM.

Mechanics and Engineering—
Statics and Dynamics.....5
Geology.....3
Least Squares.....2
Geodetic and Mining Surveying..5

WINTER TERM.

Mechanics of Engineering—
Materials.....5
Blowpipe Analysis and Determinative Mineralogy.....2
Qualitative Analysis.....4
Colored and Pen Topography....3
Trusses and Arches.....2
Graphics of Trusses and Arches..3

SPRING TERM.

Stone Cutting.....4
(text 2, drafting 2.)
Mechanics of Engineering—
Hydraulics, Retaining Walls, Masonry Dams.....5
Botany.....3
Railroad Engineering (curves, turnouts and practical location of railway).....6
(text 2, field work 4.)
Bridge Stresses.....6
(text 2, drafting 4.)

SENIOR YEAR.

SUMMER SCHOOL OF THREE WEEKS.

FALL TERM.

Commercial Law.....3
Metallurgy.....2
Bridge Designing.....2
Drawing—
Railroad Maps.....3
Hydraulics.....4

WINTER TERM.

Constitutional or International Law.....3
Water Supply and Sanitary Engineering.....3
Civil Engineering—
Materials of Engineering, Foundations, Canals, Highways.....5
Drawing—
Design of Bridges.....6

SPRING TERM.

Spherical Astronomy—
Determination of Time, Latitude, etc.....5
Contracts and Specifications.....3
Political Economy.....3
Highway Engineering.....2
Railroad Engineering.....3

II. THE COURSE IN ARTS.

Leading to the degree of Bachelor of Arts.

FRESHMAN YEAR.

FALL TERM.

Algebra.....5
Memorabilia and Greek Prose.....3
Livy and Latin Prose.....3
Rhetoric.....3
Inorganic Chemistry.....3
(text 2, laboratory 1.)

WINTER TERM.

Geometry.....5
Herodotus.....3
Tacitus—Germania.....4
Rhetoric.....3
Inorganic Chemistry.....3
(text 2, laboratory 1.)

SPRING TERM.

Trigonometry.....5
Homer's Odyssey.....3
Rhetoric.....3
Inorganic Chemistry.....3

SOPHOMORE YEAR.

FALL TERM.

Sophocles 3	Land Surveying 6
Juvenal's Satires or Ovid 3	(text 2, field work 4.)
Mechanics and Heat 3	Ancient History 3
	English Literature 3

WINTER TERM.

Demosthenes 3	Mediæval History 3
Horace—Odes and Epodes 3	English Literature 3
Acoustics and Optics 3	

SPRING TERM.

Æschylus 2	Modern History 3
Horace—Satires and Epistles 2	English Literature 3
Electricity and Magnetism 3	

JUNIOR YEAR.

FALL TERM.

Demosthenes 2	French or German 3
Pliny 2	State 3
Geology 3	English Literature 3

WINTER TERM.

Plato 2	State 3
Plautus 2	English Literature 3
French or German 3	

SPRING TERM.

Greek Syntax 2	State 3
Latin Syntax 2	English Literature 3
French or German 3	

SENIOR YEAR.

FALL TERM.

Analytical Chemistry 6	Commercial Law 3
French or German 3	Psychology 3

WINTER TERM.

French or German 3	Constitutional Law 3
International Law 3	Logic 3

SPRING TERM.

French or German 3	Ethics 3
Political Economy 3	Astronomy 5

III. THE COURSE IN CHEMISTRY.

Leading to the degree of Bachelor of Science in Chemistry.

FRESHMAN YEAR.

FALL TERM.

Algebra.....5	Rhetoric.....3
French, German or Latin*.....3	Free-hand Drawing.....4
Inorganic Chemistry.....3	
Text 2, laboratory 1.	

WINTER TERM.

Geometry.....5	Rhetoric.....3
French, German or Latin.....3	Lettering.....2
Inorganic Chemistry.....3	Tinting and Shading.....2
text 2, laboratory 1.	

SPRING TERM.

Trigonometry.....5	Rhetoric.....3
French, German or Latin.....3	Mechanical Drawing.....4
Inorganic Chemistry.....3	
Text 2, laboratory 1.	

SOPHOMORE YEAR.

FALL TERM.

French, German or Latin.....3	Qualitative Analysis.....10
Mechanics and Heat.....3	English Literature.....3

WINTER TERM.

French, German or Latin.....3	Blowpipe Analysis.....6
Acoustics and Optics.....3	Qualitative Analysis.....6
	English Literature.....3

SPRING TERM.

French, German or Latin.....3	Qualitative Analysis.....10
Electricity and Magnetism.....3	Quantitative Relations.....3
	English Literature.....3

* Requires the same preparation as for the Course in Science and Literature.

JUNIOR YEAR.

FALL TERM.

Geology	3	Zoölogy	2
Organic Chemistry	2	English Literature	3
Gravimetric Analysis	10		

WINTER TERM.

Organic Chemistry	2	English Literature	3
Gravimetric Analysis	12		

SPRING TERM.

Organic Chemistry	2	English Literature	3
Volumetric Analysis	10	Botany	3

SENIOR YEAR.

FALL TERM.

Commercial Law	3	Toxicology	6
Metallurgy	2	Medical Chemistry	6

WINTER TERM.

Constitutional Law	3	Food Analysis	12
International Law	3		

SPRING TERM.

Political Economy	3	Water Analysis	10

IV. THE COURSE IN SCIENCE AND LITERATURE.

Leading to the degree of Bachelor of Science.

(Subjects in brackets [ ] for students not taking Latin.)

FRESHMAN YEAR.

FALL TERM.

Algebra	5	Rhetoric	3
Livy and Latin Prose	3	German	3
Inorganic Chemistry (text 2, laboratory 1.)	3	[Free-hand Drawing	4]

Geometry 5	Rhetoric 3
Tacitus — Germania 3	German 3
Inorganic Chemistry 3	[Lettering, Tinting and Shading .. 4]
(text 2, laboratory 1.)	

SPRING TERM.

Trigonometry 5	Rhetoric 3
Cicero—	German 3
De Senectute, De Amicitia 3	[Mechanical Drawing ..... 4]
Inorganic Chemistry 3	
(text 2, laboratory 1.)	

SOPHOMORE YEAR.

FALL TERM.

Juvenal's Satires 3	Ancient History 3
Mechanics and Heat 3	English Literature 3
German 3	[Analytical Geometry ..... 5]
Land Surveying 6	
(text 2, field work 4.)	

WINTER TERM.

Horace—Odes and Epodes 3	Mediæval History 3
Acoustics and Optics 3	English Literature 3
German 3	[Differential Calculus ..... 5]

SPRING TERM.

Horace—Satires and Epistles 3	Modern History 3
Electricity and Magnetism 3	English Literature 3
German 3	[Integral Calculus ..... 5]

JUNIOR YEAR.

FALL TERM.

French 3	State 3
Geology 3	English Literature 3
Zoölogy 2	

WINTER TERM.

French 3	State 3
Analytical Chemistry 6	English Literature 3

SPRING TERM.

French.....3	State.....3
Botany.....3	English Literature.....3
Analytical Chemistry 6	

SENIOR YEAR.

FALL TERM.

French.....3	Metallurgy 2
Commercial Law 3	Psychology.....3

WINTER TERM.

French.....3	Constitutional Law 3
International Law.....3	Logic 3

SPRING TERM.

French.....3	Astronomy 5
Political Economy.....3	Ethics 3

Lectures on Meteorology to all Seniors during winter term.

TEXT BOOKS AND BOOKS OF REFERENCE.

MATHEMATICS.

Algebra.....Wells' University
Geometry.....Phillips & Fisher
Trigonometry....Phillips & Strong
Analytical Geometry.....Loomis
Calculus.....Taylor
Descriptive Geometry.....Church
Mechanics.....Wood
Least Squares.....Merriman
Astronomy.....White

ENGINEERING.

Surveying.....Johnson
Railroad Surveying.....Carhart
Bridge Stresses.....Merriman
Civil Engineering.... { Panton and Trautwine
Specifications.....Johnson
Hydraulic Engineering....Folwell
Sanitary Engineering.....Folwell
Stereotomy.....Mahan
Stresses in Framed Structures..... { Johnson and Bryant
Wellington's Earth Work Computation.
Foundations.....Patton
Bridge Designing.....Merriman
Hydraulics.....Merriman

SCIENCES.

Botany—Gray's Manual and Lessons.
Chemistry—Inorganic.... Shepard
Chemistry, Analysis, Qualitative, Elliot, Fresenius.
Volumetric Analysis.....Sutton
Analysis, Quantitative, Evans, Fresenius.
Organic Industrial Chemistry, Sadtler.
Blowpipe, Plimpton's Qualitative, Plattner's Qualitative and Quantitative, by Cornwall.
Metallurgy, and Assaying, Hiorn's Text-Book of Elementary Metallurgy, Hiorn's Practical Metallurgy and Assaying.
Medical Chemistry, Ralfe's Clinical Chemistry.
Organic.....Remsen
Physics—Principles of Physics, Gage.
Zoölogy.....Packard
Practical Zoölogy....Marshall and Hurst.
Geology.....Le Conte's Compend
Mineralogy, Dana's Manual, and Foye's Tables.
Food Adulteration and its Detection, Battershall, Blyth.
Toxicology.....Blyth

MODERN LANGUAGES.

French...Whitney's French Grammar.
Super's French Reader.
French Literature.
German.....Joynes'-Meissner German Grammar.
Joynes' German Reader.
German Literature.

HISTORY, POLITICAL SCIENCE AND LAW.

History — Ancient, Mediæval and Modern.....Myers
English.....Montgomery
Political Economy.....Walker
Psychology.....James
Logic.....Davis
Ethics.....Muirhead
International Law.....Woolsey
Constitutional Law.....Cooley
Commercial Law.....Townshend
The State.....Wilson
Johnson's American Politics.

ENGLISH.

Rhetoric..Hill's Principles of Practical Rhetoric.
Genung's Practical Rhetoric.
Elocution—Clark's Notes on Reading.
Bacon's Manual of Gesture.
English Literature.....Arnold

MILITARY SCIENCE.

Drill Regulations for Infantry and Artillery.
Small Arms Firing Regulations.
Wagner's Organization and Tactics.
Wagner's Security and Information.
Batchelor's Fire Discipline.
Winthrop's Military Law.
Manual of Field Engineering.
Also other books and publications which are found suitable for instruction in military work.

DEGREES, ETC.

The candidate for any degree must deposit with the Faculty a satisfactory thesis on some scientific or literary subject connected with his department.

DEGREES OF GRADUATION

The degree of Bachelor of Science in Civil Engineering is conferred upon any student who has completed the course in Civil Engineering.

The degree of Bachelor of Arts is conferred upon any student who has completed the course in Arts.

The degree of Bachelor of Science in Chemistry is conferred upon any student who has completed the course in Chemistry.

The degree of Bachelor of Science is conferred upon any student who has completed the course in Science and Literature.

ADVANCED DEGREES. The Master's degree in Science or Art is conferred upon graduates of three years' standing, who, having taken the corresponding Bachelor's degree, have during that time been engaged in professional, literary or scientific pursuits, or have pursued a course marked out by the Faculty for two years after graduation, and have passed the requisite examinations.

The degree of Civil Engineer is conferred upon graduates in Civil Engineering of three years standing, who have pursued the profession of engineering during that time, have passed the requisite examinations, and have presented a satisfactory thesis; or upon graduates who have completed a post-graduate course.

TEACHER'S CERTIFICATES. In accordance with the decision of the State Superintendent of Education, "Graduates are entitled to a five years' teacher's certificate without examination."

COMMISSIONED OFFICERS. Upon graduation, Cadet Officers receive commissions signed by the President of the University, and by the Adjutant and Inspector-General of the State.

SUBJECTS AND METHODS OF INSTRUCTIONS.

CIVIL ENGINEERING. The thorough training of the eye and hand in Free-hand Drawing is of the greatest importance in all subsequent drafting. The course embraces accurate outline drawing, elementary perspective, sketching, object drawing, pencil shading and designing. The effort is made to produce designers, instead of mere copyists. Practice in lettering, large and small drawings, general orders, etc., also in tinting and shading with the right line pen, and

with brush and water colors, is given in the second term. Neatness of text and rapidity of execution are aimed at. In the third term, dexterity in handling drafting instruments is acquired. Various applications of geometry to drafting, and the orthographic and isometric projections of joints and splices in wood construction are taught. Descriptive Geometry is taught in the fifth and sixth terms, with special reference to its application to shades and shadows, machine construction stone cutting, and to the designs of stone bridges, culverts spiral stairways, sewer intersections, etc.

The course in bridges begins with the drawing of details which are measured by students while visiting engineering structures. Thus, while the student acquires facility in drawing, he becomes familiar with the various details of a bridge An extended course in Bridge Stresses is given in the ninth term, and in the eleventh term the student is given specifications, and required to apply his theoretical knowledge in designing railway and highway bridges of wood, iron and steel, to the minutest details. In Pen Topography and Colored Topography the students use the conventions for map making, and apply them in the maps platted from the land and railroad surveys.

An extended course in Applied Mathematics or Mechanics of Engineering is given, in which engineering problems concerning rigid bodies at rest or in motion, the strength of engineering materials, and the statics and dynamics of liquids and gases, are practically treated.

The Laboratory work of the eighth term, and the Metallurgy of the tenth, enable the student to study the materials of engineering with regard to strength and constituents. Under Hydraulic, Sanitary and Civil Engineering, the design and construction of water supply and distribution systems, sewerage systems, and sewerage disposal, and of canals, tunnels, foundations in water and on land, and river and harbor improvements are treated.

Six hours of drafting per week are required throughout the course, and while the above subjects are being studied, numer

ıs designs of engineering structures are made in the drafting ›om. In the reading room are placed the best of engineering ɛriodicals, which give descriptions of all new works of special .terest, and enable the students to keep up with the latest ıethods of construction.

In Land Surveying and Levelling, practice in using and ljusting instruments is given, and the most improved methods : map making, dividing up and parting off land, and supplying nmissions in old surveys are taught, both in class room and ɛld. The Advanced Surveying of the sixth term includes opographical, Geodetic, and City Surveying, with field work ıd practice in the drawing room.

The Highway Engineering of the last term is calculated to ɜach the students the essential principles of this branch of ıgineering, which has become so prominent.

In Railroad Surveying the field work consists of preliminary ırveying, final location, slope staking, etc. Office work is ɪven in making contour maps of the line, profiles, earthwork ılculations, estimates of cost, etc. The lectures on Economic ailway Location enable the student to decide between two or ıore proposed railway lines, and to reduce expenditures in the ɔeration of lines already built.

In the last term, students are required to make specifications ıd contracts for engineering projects of their own design. he course given in this term in Astronomy provides the ıgineer with as much of this subject as his profession requires.

EQUIPMENT The department has a collection of designs for Free-hand and Perspective Drawing, and for modern houses, cottages, public buildings and ·chitectural details. It has also collections of blue prints of ıe best modern bridges, including pivot draws, plate girders, ıd various types of pin-connected and riveted trusses, as well ; of sewer details and sewer constructions

The students have the use of the best modern instruments ›r angle and line measurement, including transits, compasses, vels, plane table, sextant, rods, chains, etc., and have much

more practical engineering field work than is usually given, with the first-class instruments now used in modern engineering.

SUMMER SCHOOL A course of practical field work, uninterrupted by the daily routine, is pursued by the Seniors and Juniors for three weeks, beginning on the Monday immediately following Commencement Day.

MATHEMATICS In the department of Mathematics, sufficient attention is paid to practical applications to enable students to see the utility of their studies, and to assist them in the scientific professions.

Theory is developed in as careful and complete a manner as possible, in order that the student may receive that mind discipline, which is so valuable an equipment for all pursuits, whether technical or general. The clearest and most concise text-books are sought for; abtruse and unprofitable discussions are avoided; original work is encouraged, and students are called on for personal recitations more frequently than in most institutions of similiar character.

GEOLOGY AND MINERALOGY The treatment of Geology consists of text-book work, supplemented by frequent excursions in the field, in which the many interesting features of the region are examined. Colored maps, representing the geological formations of counties or large sections, are required. Mineralogy is taken up in connection with Geology, the student being required to identify minerals by their physical properties. In connection with this work each student is required to make a collection of fifty minerals, which he determines and classifies. To aid him in his work, he is given instructions in Blow-pipe Analysis and Determinative Mineralogy.

HISTORY AND POLITICAL SCIENCE The course of History affords a connected and comprehensive view of the history of civilization from the earliest times to the present. By investigating the causes which underlie the world's history, the instruction aims not only to train the memory and develop the reasoning faculties, but to fit men to

deal wisely with those practical social questions of the present, upon whose solution the experience of the past throws the most valuable light. Particular attention is given to the constitutional development of England and of the United States.

Political Economy is taught in the Senior year by means of text-books, lectures and informal discussions. A theoretical view of the subject is followed by a practical study of Land and Labor Questions, Socialism, Finance, Public Credit, the Principles of Taxation and Tariffs.

PSYCHOLOGY An examination of the different sources of knowledge, an analysis of the various mental states, and a classification of the faculties, are followed by a study of the relation of psychology to education, for the benefit of those students who may desire to engage in teaching. The laws governing the processes of acquiring and reproducing knowledge, the development of the faculties, together with the ways in which they interact one on another, and the play of motives, furnish the foundation of rational instruction and government, and are of special value to the teacher.

LOGIC Logic is taught by recitations and informal lectures. The objects of this study are to give the student vigorous mental discipline, training in exactness, and certainty in thinking, skill in detecting fallacy, and assistance in all the sciences by directing attention to those points of method in each science, which the cultivator is apt to neglect in his zeal for the subject matter of each.

MODERN LANGUAGES The chief aim of this department is to enable the student to read French and German with ease and fluency. By this method it is intended, not only to familiarize the ear with the spoken language, and thus to lay the best ground-work for conversation, but also to render easy and intelligible the grammar work and reading which follow.

After a thorough course in the essentials of grammar, accompanied with composition, and the reading of easy prose, various selections of prose and poetry from the best authors are read.

Much attention is given to the relation of the languages to English and to each other, especially in the matter of derivative and cognate work.

To enrich the student's English vocabulary, to cultivate his taste for good literature, and to broaden his mental horizon, are further objects of the instruction.

RHETORIC, ENGLISH CRITICISM, ELOCUTION. The instruction in this department aims to deal in the most practical way with the composition and delivery of good English.

In Rhetoric, to which subject is devoted three hours each week during the Freshman year, much of the time is spent in the application of the principles of Rhetoric to the correction of faulty sentences. This instruction is supplemented during the remainder of the course, by lectures on the higher qualities of style, in connection with the essay work. As to punctuation, paragraphing, etc., students are required to present their essays and manuscript orations in proper form for publication.

In English Criticism, while it is sought to eradicate faults of style, especial attention is given to the development of the student's individuality and power of expression. An important feature is the critical examination of English prose masterpieces, which is made in connection with the study of English Literature. Essays and orations are carefully revised, returned to the writers for correction, and afterward read and criticised in class. That the student may learn to study his subject comprehensively, and to arrange its parts logically, instruction is given in the formation of essay outlines.

In Elocution, the chief ends sought are distinct and forcible utterance, just emphasis, and ease and naturalness of expression.

Much stress is laid upon the subject of extempore speaking. Practice is given also in declamations, essays, etc., and the endeavor is made to cause the acquirement of that ease and fluency in public speaking which is so important a factor in the various walks of life.

BOTANY The course in Botany begins in the spring term of the Junior year, and comprises Vegetable Morphology and Physiology, Plant Analysis, and the preparation of Herbaria.

The life history of vegetation is traced from seed through stems and roots, leaves, branches, buds, flowers and fruit, to seed again.

Gray's lessons are used, with lectures and field work. A few of the more difficult orders of Phænogams are studied. Attention is given to the various kinds of parasitic fungi so destructive to crops.

ZOÖLOGY Structural Zoölogy is taught by recitations and by laboratory demonstrations. Dissections and drawings are made of representative species in each group of animals. The purpose of this course is to give the student a definitive conception, by means of sense-images, of the characteristic structure of the leading modifications of the Animal Kingdom.

CLASSICS It is the aim of the Classical Department to make the work as thorough as possible, and to give the student a general literary culture. A thorough knowledge of grammatical form is considered necessary, and especial attention is given during the first year to etymology and syntax, vocabulary and idioms. In this manner not only is a thorough knowledge of the language obtained, but the greatest possible amount of mental discipline is derived. The similarity between the Greek and Latin on the one hand, and the English on the other, is pointed out, and especial study is given to roots from which English words are derived. The course is designed to embrace all the leading classes of composition in Greek and Roman Literature, and to afford accurate historical knowledge of the Greek and Latin characters and customs. Attention is given to right translation, and care is taken that the student translate into good English, that he may thus improve his knowledge of English in the study of the classics.

CHEMISTRY AND PHYSICS

The study of Chemistry is begun by students in all courses, in the Freshman year. It consists during this year of lectures and recitations upon general Inorganic Chemistry, in which the principles of the science are brought out and fully explained. Following this is a description of the properties of elements and compounds and of the methods used for preparing them. To bring this work more clearly before the student, a large number of experiments are performed before this class, in many of which the students are permitted to assist.

In addition to the recitations, one period a week is devoted to laboratory practice, in which the student performs for himself the experiments given in the section room. The second year's work is intended for those who take the Chemical Course and consists of daily laboratory practice. The work of this and of the following years is performed by the students themselves under the direction of the professor and his assistant. Qualitative examinations, and as the student becomes more advanced quantitative examinations, of minerals, commercial products fertilizers, drugs and medicines are made. For those students desiring to fit themselves for the study of Medicine and Pharmacy, special instruction is provided in the Chemical Laboratory.

Three hours a week, during the Sophomore year, of all courses, are devoted to the subject of Physics.

From this brief outline it will be seen that the aim in all departments is to teach the practical application of the principles of the text-books, and to give to our graduates that ability to apply theory to practice, which is too often sadly lacking from the ordinary course of instruction.

GENERAL INFORMATION.

SCHOLARSHIPS

There are thirty State scholarships, covering tuition and room rent.

Young men residing in Vermont, who may be desirous of obtaining a State scholarship, should apply first to the Presi

DENT for information as to whether a vacancy exists in their County. Learning of a vacancy, application for appointment should then be made to one of the county Senators.

The Chauncey Denny Scholarship, for residents of Northfield, was founded by the late Chauncey Denny, for many years a member of the Board of Trustees.

In addition to the above, a number of half-scholarships have been created for the benefit of needy young men who desire to obtain an education.

There are also two Scholarships given by an Alumnus of 1892.

Information regarding these scholarships can be obtained on application to the PRESIDENT.

EXPENSES The charges for instruction, etc., are quite low, as may be seen by the following statement:—

Tuition, per academic year	$ 65.00
Room rent	15.00
Incidentals:—	
Reading-room, Bath, Telephone, Mail Carrier, Drill Hall, etc., etc	12.00
Heat and Light	18.00
Board at Mess Hall, thirty-six weeks	108.00
Total	$218.00

The rooms are generally unfurnished; in a few cases where the room furniture is the property of the University, a small annual rental is charged. The cost of furnishing a room is about $15.00 to each occupant; this furniture is of prescribed pattern.

The Barracks are lighted by electricity and heated by steam, the charge for these being payable with the bill for the Fall Term, as is also the charge for incidentals.

No laundry work is undertaken at the Mess Hall, but good laundry facilities may be obtained in the village. Students should bring all their bed linen (for single bed), blankets and

PAYMENT OF BILLS The bill for mess hall, tuition and room rent is divided into three equal instalments, one instalment being due at the beginning of each term. *All bills are payable in advance, on the first Friday or Saturday of each term, and cadets will not be admitted to the privileges of the section rooms until their bills are paid.*

If for any reason, delay in payment is desired, satisfactory arrangements must be made therefor in writing, prior to these days.

No cadet in debt to the University will be permitted to enter the examinations at the close of a term.

Mess Hall bills are payable in advance as above noted, but if desired one-half only may be paid at the beginning of the term, the remainder must be paid at the close of the sixth week of the term. No deduction is made for absence from the Mess Hall, unless such absence is continuous for at least one week; and then only on approved application for leave, and notice given in writing to the Mess Hall by the cadet.

FEES Students in the Course in Chemistry are required to deposit $10 at the beginning of each term of the Sophomore, Junior and Senior years, the amount not consumed being returned at the end of each term.

The average expense for materials for students in the Chemical course is from $6 to $8 per term.

In the Engineering course in Qualitative Analysis, $3 is charged in the second term of the Junior year. In the other courses a fee of $5 per term is charged for Qualitative Analysis.

A fee of $3 per term is charged for Determinative Mineralogy.

A chemical fee of $1 per term is charged members of the Freshman class.

These charges are for chemicals, and do not include breakage or waste of materials.

The fee for the Summer School in the Engineering Course is $5; persons not cadets, who are properly prepared, may join

this school, the fee being $25. Subsistence and other necessary expenses are not included in these amounts.

The diploma fee on graduation is $10.

A deposit of fifty cents is required for each room key obtained by a cadet; returnable when the key is returned.

BUREAU OF INFORMATION The Bureau of Information is intended to serve in assisting graduates to obtain desirable positions as Teachers, Engineers, Chemists, etc. Those of the Alumni who desire such positions should send their addresses to the President, that they may receive the benefit of the applications for men, of which he is frequently in receipt. The value of this feature is attested by the comparatively large number of graduates who, since its establishment, have found lucrative positions without trouble or expense to themselves.

THE REVEILLE The Cadets conduct a monthly magazine devoted to the interests of the University, the Alumni, and the Corps

READING ROOM The Reading Room is provided with many of the leading literary, political and technical periodicals of the day, under the direction of a committee composed of two members of the Faculty and one Cadet.

STUDENTS' SOCIETIES Two fraternities, A Σ P and Θ X, exist among the students (having been founded some forty years ago), in which valuable literary work is done, while at the same time social privileges are enjoyed.

RELIGIOUS FEATURES Prayers are held in the morning before the opening of academic exercises, the President officiating. On Sunday morning each Cadet is required to attend divine service with some one of the village congregations, the choice being made at the beginning of the term, and adhered to throughout the term. The religious societies of the village are: Congregational, Episcopal, Methodist, Roman Catholic and Universalist. While Cadets are held to a strict observance of the rules for religious exercises, and

while all immoralities are carefully guarded against, yet the institution is in every respect non-sectarian.

ACADEMIC HONORS

A Cadet having a general average for the year of 90 or more receives "honorable mention;" having 90 or more in all branches for the year receives "very honorable mention." One receiving 90 or more in all branches for the whole course is graduated "with highest honors;" one receiving "honorable mention" for each year in the course is graduated "with very high honor." "Honorable mention" in any subject is made of any Cadet who receives 90 or more in the subject for the current year, or for one term, when the subject is completed in that term. If "honorable mention" is made in any branch, on the completion thereof, the recipient is graduated "with honors in————." If "honorable mention" is made in two or more branches, the recipient is graduated "with honors in————and————."

These mentions are made at Commencement and published in the catalogue.

The names of the three students who stand highest in the Military Department are reported to the Adjutant-General of the State and the Secretary of War, and are published in the Army Register of the year following.

THE SHELDON PRIZE SPEAKING

Three prizes of $15, $10 and $5, respectively, are given to the three of the eight competitors from the Sophomore and Freshman classes who show the greatest merit in declamation or debate, in a contest held during Commencement week. These competitors are chosen at a preliminary contest held early in the spring term, *in which all members of both classes are required to participate*, as a portion of the course in rhetoricals. Prize winners in previous contests are debarred from competing.

THE AUSTIN TROPHY

Mr. Fred T. Austin, M. S. (1888), has established an annual trophy, consisting of three medals, of gold, silver, and bronze, respectively, given to the three Cadets making the highest score at target practice,

the winners holding them for one year, provided they remain members of the University.

THE FACULTY GOLD MEDAL This medal is bestowed upon the member of the Senior class who has the highest academic standing from entrance to the close of the winter term of the Senior year.

THE THOMAS MEDAL Mr. Geo. D. Thomas, M. A. (1876), gives annually a gold medal to the Cadet who has the highest general average for the year ending with the close of the winter term: this competition is open to the three Senior classes.

THE SHUTTLEWORTH SWORD Lieut. E. A. Shuttleworth, U. S. A., M. S. (1891), gives annually, a regulation foot-officer's sword to the member of the Junior class having the highest military standing from entrance to the close of the winter term of the Junior year.

THE JUCKETT MEDAL Mr. Elmer R. Juckett, M. S. (1889) gives annually a gold medal to the member of the base ball team, either regular or substitute, who has the highest academic standing for the year.

THE SOPHOMORE PRIZES A silver medal is given by the President to each of the three members of the Sophomore class, whose general average, military and academic standing, respectively, are the highest.

THE FRESHMAN PRIZES A silver medal is given by the President to each of the three members of the Freshman class, whose general average, military and academic standing, respectively, are the highest.

STANDING, ETC. Academic standing depends upon recitations; military standing upon marks of merit and demerit, together with proficiency in military duties; the general average is determined by combining the academic and military standings, the former counting two and the latter one. Immoralities, technical and minor offences, are marked with demerits, and are punishable in other ways.

Whenever purely academic duties require variation in special matters, the analogies of military usage are maintained so far as practicable.

UNIFORM

The dress uniform consists of a dark blue blouse, with standing collar; dark blue trousers with red stripe, black cravat, white linen standing collar, U. S. regulation forage cap, boots or high shoes of black leather. A dark blue overcoat of University pattern may be worn with this uniform under certain restrictions. The fatigue uniform for daily wear, including overcoat, is furnished by the University, of Army pattern and material; the cap and campaign hat to go with this are sold at cost price (about $1.75) to each cadet. An inexpensive uniform of Khaki is required for warm weather.

The dress uniform is made of a special standard cloth, by the University contractor, at a cost of $25.50, including a cap and one pair of white gloves. Khaki uniforms are also made of a special standard cloth, at a cost of $8.50.

UNIFORM BOND

A bond in the sum of $25 is required of every cadet drawing the fatigue uniform, with some responsible person as security, to ensure its return when called for; all alterations and repairs must be made at the expense of the wearer and all reasonable wear will be allowed without charge.

ABSENCE

The number of leaves involving absence over Sunday without affecting the record of a cadet is limited to two per term; any further absence will be counted as unexcused, and will affect the record for deportment and military standing.

Generally speaking, students are expected to remain in attendance during the whole of a term, unless granted special leave of absence. Parents and guardians are requested to restrict their applications for leave for their sons or wards to cases of actual necessity. There is no Thanksgiving recess.

Those who are absent for any cause for 20% or more of the assigned recitations in any subject, are required to pass an extra examination, having a weight in the term mark equal to the per

cent. of absences. If 15% or more of absence occurs within four consecutive weeks, the recitations lost are required to be made up by examination within a week of return. If a Cadet leaves during a term for any cause except for continued sickness, no reduction is made in the term bill; in case of sickness, the loss is shared equally by the Cadet and the University.

ATHLETICS The Athletic Association is governed by a committee consisting of members of the Faculty, the Alumni and the Cadets, who make such regulations and arrangements regarding athletic matters as may seem proper. The registered colors are maroon and old gold.

ATHLETIC PRIZE A silver medal is given by the President to the Cadet making the highest number of points on the field day in Commencement week.

CONDITIONS A student deficient in work up to the end of the winter term of any year, is not ranked with the next class until such work is made up. No Cadet is eligible for a commencement honor who has not made up all deficiencies before the first Saturday of the spring term of his Senior year. The operation of this rule may be suspended by vote of the Faculty in those rare cases which warrant such action.

LOCATION Northfield being located on the main line of the Central Vermont Railway, is easy of access from all directions. The Barracks are in direct telegraphic and telephonic connection with the offices and exchanges in Vermont and elsewhere. There is probably no State that can boast of a more healthful climate than Vermont. Northfield is in the central part of the State, ten miles from the Capital, Montpelier. A popular resort in summer, it loses none of its healthfulness in winter. The water is pure and clear, and the University and village are well supplied from mountain springs.

REDUCED FARES The Central Vermont and Rutland Railroads carry students for two cents per mile, on certificates, to be obtained through the President. To secure these, application should be made not later than Septem-

ASSOCIATE ALUMNI AND PAST CADETS.

By action of the Trustees and in accordance with the amended charter, the Alumni and Past Cadets are entitled to elect one member of the Board of Trustees each year. The meetings of the Association are held annually on the day preceding Commencement, at ten o'clock in the forenoon.

OFFICERS FOR 1900-1901.

PRESIDENT,

JOHN B. JOHNSON, '79, *Northfield.*

VICE-PRESIDENTS.

ETHAN A. SHAW, '91. *Northfield.*

FRED B. THOMAS, '95, *Montpelier.*

SECRETARY.

W. A. SHAW, '88, *Northfield.*

TREASURER.

PHILO R. HOEFLER, '95, *Northfield.*

Members of the Association not present may vote by written ballot at the annual election of Trustees. It is therefore important that each member keep the Secretary informed of his full address, and notify him promptly of any change.

BOSTON ALUMNI ASSOCIATION.

OFFICERS FOR 1901.

PRESIDENT,

N. L. SHELDON, '84.

VICE-PRESIDENTS,

DR. CHARLES F. KINGSBURY, '51.

COL. HENRY O. KENT, '54.

COL. EDMUND RICE, '60.

SECRETARY,

EPHRAIM W. CLARK, '92,

47, 48 Niles Building, School Street, Boston.

TREASURER,

WRIGHT S. PRIOR, '89.

NEW YORK ALUMNI ASSOCIATION.

OFFICERS FOR 1901.

PRESIDENT,

GRENVILLE M. DODGE, '53.

VICE-PRESIDENTS,

CYRUS H. FAY, '37.

CLAYON E. RICH, '63.

WILLIAM M. RUMBAUGH, '76

SECRETARY AND TREASURER,

ROBERT L. IRISH, '89, *443 Myrtle Avenue, Brooklyn, N. Y.*

WESTERN ALUMNI ASSOCIATION.

COMMENCEMENT, 1900.

Preacher of the Baccalaureate Sermon,
THE REV. A. W. C. ANDERSON, *of Northfield.*

DEGREES CONFERRED.

GRADUATION.—*Bachelor of Science:*

IN CIVIL ENGINEERING.—SANFORD HARRIS ASHLEY,
RICHARD GEORGE RICH,
JEFFERS FOSTER RICHARDSON,
HAROLD SAMUEL RICHMOND,
BERTON WILLIAM SIBLEY.

IN COURSE.—*Civil Engineer* - CHARLES WRIGHT MEAD of '81.

HONORARY.—*Master of Arts* - FRANK BALCH.

HONOR LIST.

Valedictorian and Senior Gold Medalist,
HAROLD SAMUEL RICHMOND.

Salutatorian,
JEFFERS FOSTER RICHARDSON.

Commencement Speakers,
SANFORD HARRIS ASHLEY,

rted to the War Department and to the Adjutant General of the State as Highest in Military Standing.

BERTON WILLIAM SIBLEY,

RICHARD GEORGE RICH,

JEFFERS FOSTER RICHARDSON.

Winners of Prize Speaking Contest,

WILLIAM CLARENCE THOMPSON,

SAMUEL LESLIE FULLER,

HARRY OAKES YOUNG.

Winners of the Austin Trophy,

Gold, HENRY ALBERT CHASE,

Silver, STANLEY JOHN PARSONS,

Bronze, ELROY ALBERT CHASE.

Winner of the Thomas Medal,

HARRY GUY CLARK.

Winner of the Shuttleworth Sword,

CHARLES EDWARD WHEATLEY.

Winner of the Juckett Medal,

SETH WILLIAMS.

Winners of the President's Medals,

SOPHOMORES.

General Average, GUY HENRY WATSON,

Military Standing, GUY HENRY WATSON,

Academic Standing, LAURENCE BERNARD STEBBINS.

FRESHMEN.

General Average, JOHN HAROLD FOSTER,

Military Standing, JOHN HAROLD FOSTER,

Academic Standing, SETH WILLIAMS.

HONORABLE MENTION.

Cadets having a General Average of 90 or more for the year.

SENIOR.

JEFFERS FOSTER RICHARDSON.

JUNIORS.

DEAN ORRIS CARR,

HARRY GUY CLARK,

WILLIAM EVERETT ROBERTSON.

FRESHMAN.

JOHN HAROLD FOSTER.

Cadets having an Average of 90 or more for the year in any Subject or Branch.

SENIORS.

JEFFERS FOSTER RICHARDSON, Commercial Law, Meteorology.

HAROLD SAMUEL RICHARDSON, Bridge Design, Railroad Engineering, Highway Engineering, Metallurgy, Astronomy, Political Economy.

JUNIORS.

DEAN ORRIS CARR, Surveying, Topography, Geology, Trusses and Arches, Mechanics of Engineering, Stone Cutting, Bridge Stresses, Botany.

HARRY GUY CLARK, Surveying, Topography, Geology, Trusses and Arches, Mechanics of Engineering, Stone Cutting, Bridge Stresses.

WILLIAM STEELE PINGREE, English Literature.

FRESHMEN.

Richard Fleming Barker, Drawing.

Harry Knight Briggs, Drawing.

Heman Baker Chase, French.

William Reynolds Farrington, Latin.

John Harold Foster, Drawing, French, Rhetoric, Chemistry.

Samuel Leslie Fuller, Drawing, Rhetoric, Chemistry.

Stanley John Parsons, Mathematics, Rhetoric, Chemistry.

Frank Strong, Drawing.

Francis Bowen Upham, Mathematics, Chemistry.

Seth Williams, Mathematics, French.

COMPETITORS IN PRIZE SPEAKING.

Harry Mansur Hobson, '02.

Harry Knight Briggs, '03.

William Reynolds Farrington, '03.

John Harold Foster, '03.

Samuel Leslie Fuller, '03.

Francis Byron Judd, '03.

Fritz Louis Metzger, '03.

William Clarence Thompson, '03.

BATTALION ORGANIZATION.

Captain Charles Sargent Carlton, V. N. G., B. S.,
Commandant.

Cadet Major Charles Edward Wheatley,
Cadet 1st Lieut. Harry Guy Clark, Quartermaster,
Cadet 1st Lieut. Carl Danforth Hazen, Adjutant,
Cadet Sergt.-Major Guy Henry Watson.

COMPANY A.

Cadet Captain Dean Orris Carr,
Cadet 1st Lieut. Leonard Melvin Newton,
Cadet 2nd Lieut. Irving Clendenen Ellis,
Cadet 1st Sergt. Robert Truman Phinney.

COMPANY B.

Cadet Captain William Everett Robertson,
Cadet 1st Lieut. Fred Thomson Bass,
Cadet 2nd Lieut. Louis Franklin Chamberlain,
Cadet 1st Sergt. Laurence Bernard Stebbin

SENIOR CLASS.

Name.	*Course.*	*Home Address.*
Fred Thomson Bass,	C. E	*Randolph*
Dean Orris Carr,	C. E	*Georgia Plains*
Louis Franklin Chamberlain,	C. E	*Newbury*
Harry Guy Clark,	C. E	*Champlain, N. Y.*
Irving Clendenen Ellis,	C. E	*Northfield*
Carl Danforth Hazen,	C. E	*Worcester, Mass.*
Leonard Melvin Newton,	C. E	*Olcott*
William Everett Robertson,	Ch	*St. Albans*
Charles Edward Wheatley,	C. E	*Montpelier*

JUNIOR CLASS.

Name.	*Course.*	*Home Address.*
Leon Frank Booth,	S. & L	*Morrisville*
Frank Henry Burr,	C. E	*Bellows Falls*
Willard Lyman Fuller,	C. E	*Essex Junction*
Harry Mansur Hobson,	C. E	*Island Pond*
Robert Truman Phinney,	C. E	*Montpelier*
John Theodore Smith,	C. E	*Russell, N. Y.*
Laurence Bernard Stebbins,	C. E	*Northfield*
George Henry Watson,	C. E	*Lyndonville*

SOPHOMORE CLASS.

Name.	*Course.*	*Home Address.*
William Marsh Anderson,*	A	*Northfield*
Arthur Garfield Baker,	C. E	*Northfield*
Earnest Stearns Ball,	C. E	*Gardner, Mass.*
Richard Fleming Barker,	Ch	*Bellows Falls*
Harry Knight Briggs,	C. E	*Athol, Mass.*
James Squire Brownell,	C. E	*Woodstock*
John Henry Byrd,	C. E	*Randolph*
Albert Bayley Chamberlin,	C. E	*Newbury*
Elroy Albert Chase,	C. E	*Northfield*
Henry Albert Chase,	Ch	*Bradford Center*
Frank Steel Drown,	C. E	*Boston, Mass.*
Gilbert Clarence Eastman,	C. E	*Milford, Mass.*
Robert Burns Farquharson,	C. E	*So. Ryegate*
Clinton Rufus Farr,*	C. E	*Northfield*
Kemp Russell Blanchard Flint,	S. & L	*Montpelier*
John Harold Foster,	C. E	*Waltham, Mass.*
Samuel Leslie Fuller,	C. E	*Bennington*
Charles Franklin Gallup,	C. E	*West Woodstock*
Emilio Guerra y Giro,	C. E	*Santiago de Cuba*
Timothy Holland,	C. E	*Northfield*
Louis Henri Janvrin,	C. E	*Saratoga Springs, N. Y.*
Francis Byron Judd,	C. E	*Des Moines, Ia.*
Fritz Louis Metzger,	C. E	*Rutland*
Stanley John Parsons,	C. E	*Elmore*
Harry Arthur Peabody,	C. E	*Chester*
John Tinney Powers,	C. E	*Bennington*
Marshall Morill Stocker,	C. E	*Danville*
Frank Strong,	C. E	*Philadelphia*
William Clarence Thompson,	C. E	*Northfield*
Allan Rawson Williams,	C. E	*Jericho*
Seth Williams,	C. E	*Foxboro, Mass.*

* Subject to examination.

FRESHMAN CLASS.

Name.	*Course.*	*Home Address.*
Bertrand Dorr Barker,	C. E	*Poultney*
Vincent John Brennan,	Ch	*Queechee*
Craig Oscar Burt,	C. E	*Stowe*
Henry Fitzgerald Causebrook,	C. E	*Burlington*
George Halliday Chapin,	C. E	*Melrose Highlands, Mass.*
Joseph Harold Denny,	C. E	*Northfield*
Holton Reed Dillingham,	C. E	*Northfield*
Harry Freeman Doe,	C. E	*Newbury*
George Eldridge Dunham,	Ch	*Northfield*
Homer Ferrin,	C. E	*Montpelier*
Ralph Leon Gilman,	C. E	*Chelsea*
Ira Liman Holden,	C. E	*Northfield*
Daniel Holland,	C. E	*Northfield*
William Selden Hutchinson,	C. E	*Enosburg Falls*
Arthur Russell Lunt,	C. E	*Gorham, N. H.*
Ferdinand Leroy Maxwell,	C. E	*Northfield*
Joseph Edmund McGreen,	Ch	*Bellows Falls*
Royal Lee Mead,	C. E	*Livingston, Montana*
John Kent Morris,	C. E	*Waldrop, Virginia*
Stanley Doyton Nichols,	C. E	*Roxbury*
Earl Dexter Perry,	C. E	*Worcester, Mass.*
Homer Eyton Chase Rainey,	C. E	*Randolph*
George Christopher Randall,	C. E	*Woodsville, N. H.*
Guy Garfield Russell,	Ch	*Hartland*
Harry Orlando Smith,	C. E	*Stowe*
Nathan Lee Thomas,	C. E	*Stowe*
William Oliver Tuck, Jr.,	C. E	*Haverhill, Mass.*
William E. C. Washburn,	C. E	*Northfield*

George Franklin Abbott, Civil Engineer, Elevated Railway ..... *Boston*
*The Rev. Alfred Frederick Booth .....
Edward Aiken Shuttleworth..... *1st Lieut. 12th Inft., U. S. A.*
William Hibbard Sprague, Merchant..... *East Brookfield, Vt.*
Harry Gordon Woodruff, Teller, Amoskeag National Bank,
Manchester, N. H.
Ethan Allan Shaw, Professor ..... *Norwich University*
Carl Gilman Dole, B. & M. R. R..... *Lyndonville*
Heber Calvin Cady, Assistant Cashier..... *Northfield Savings Bank*
Burton Wiley Farnham, City Engineer's Office ..... *Lowell, Mass.*
Fred Miner Goodhue, Editorial Staff, *The American*..... *Lowell, Mass.*
Percy Gates Smith, City Engineer's Office ..... *Worcester, Mass.*
Clarence Bonnett Riggs, Civil Engineer..... *New Rochelle, N. Y.*

1892.

Ephraim Wesson Clark, Civil Engineer, Elevated Railway..... *Boston*
Joseph Spafford Craigue, Civil Engineer..... *Boston*
Charles John Clement Evans, Civil Engineer, with Post & McCord,
New York City
Charles Warner Pierce, Editor of *The Herald*..... *Northampton, Mass.*
Robert Henry Perse Ford, Civil Engineer of..... *Central Vermont R. R.*
Edmund Henry Ryan, Civil Engineer..... *Monticello, Utah*
Dewitt Clinton Webb, Civil Engineer..... *Boston*
Benjamin Whitney Gleason, Medical Student..... *Philadelphia*

1893.

George Leslie Andrews, Pharmacist.....*Newbury, Vt.*
Edward Cushman Bennett, Attorney at Law.....*No. Bennington, Vt.*
Eben Watson Gaynor, Dentist.....*Boston*
Frank Albert Gokey, in business at.....*Everett, Mass.*
Frank Dudley Holbrook, Civil Engineer.....*Boston*
Wilber Edson Hurlburt, Lawyer.....*Oshkosh, Wis.*
Frank Alden Manuel, Manufacturer.....*Richford, Vt.*
Hiram Nathaniel Mattison, Cashier, National Bank.....*Chelsea, Vt.*
Oren Luther Pease, Pharmacist.....*Hartford, Ct.*

1894.

Leo Bertram Clogston, Draftsman.....*Jamaica Plains, Mass.*
Ernest Willard Gibson, Attorney at Law.....*Brattleboro*
Harvey Levi Hinman, in business at.....*Coös, N. H.*
Howard Clinton Holden, Civil Engineer, with Massachusetts Highway Commission.
Leroy Chittenden Hulburd, Topographical Engineer.....*New York City*
James E. Ross, Topographical Engineer, Sanborn Perris Map Co., *New York City*
Raymond Underwood Smith, Attorney at Law.....*Wells River, Vt.*
*George Eber Storrs.....
Hal Holmes Stearns, Topographical Engineer.....*Winthrop, N. Y.*
Harlan Badger Wasson, Civil Engineer, with Massachusetts Highway Commission.

1895.

Edgar Fletcher Carruthers, Western Electric Co.....*New York City*
Charles Horace Davis, Engineer, St. R. R. Co.....*Leicester, Mass.*
Fred Carnot Davis.....*Randolph, Vt.*
Frank James Donahue, Civil Engineer, Sanborn Perris Map Co., *New York City*
Ray Storrs Dowe.....*Railway Mail Service*
Walter George Huntley, Dentist.....*Northfield*
Philo Remington Hoefler, Dole-Brill Slate Quarry.....*Northfield*
Harry Chester Moseley, Business.....*Northfield*
Bert Henry Prior, City Engineer's Office.....*Worcester, Mass.*
Michael John Ryan, Elevated Railway.....*Boston*
Fred Barnes Thomas, Lawyer.....*Montpelier, Vt.*
Samuel Adrian Thomas, Civil Engineer, Sanborn Perris Map Co., *New York City*
Dean Clyde Warren, City Engineer's Office.....*Cambridge, Mass.*

* Deceased.

Arthur Gilbert Andrews, LL. M. (Columbian University) Attorney Elmer Gates Laboratory of Psychology and Psychurgy ...*Chevy Chase, Md.*
James Leland Averill.....*Berlin Bridge Company*
George Horace Briggs .....*Northfield*
Charles Sargent Carleton, (1st Me. Vols.) Commandant Cadets, *Norwich University*
Herbert Sawyer Clark, City Engineer's Office..... *Worcester, Mass.*
John Leslie Collins, City Engineer's Office.....*Cambridge, Mass.*
Harry Ray Dole, in business .....*Northfield*
Phil Sheridan Howes, Farmer..... *Northfield*
Edward Michael McCarty, Clerk ....*Boston*
Charles Albert Plumley, Law Student and Insurance.....*Northfield*
Carroll John Scribner, Civil Engineer.....*with C. V. R. R.*
Leon Anson Skinner, in business .....*So. Royalton*
Herbert Eugene Caswell, School Teacher..... *St. Albans Bay*

1897.

Winfred Ballard Carr.....*2nd Lieut., 2nd Artillery, U. S. A.*
Henry Vail Dunham, American Caseine Co..... *New York City*
William Arba Ellis, (Historian, N. U.) Dodd, Mead & Co..*New York City*
*William Clarence Spafford .....
Donald William Sutherland, Civil Engineer.....*Lennoxville, P. Q.*
Charles Ernest Walker (U. S. Vol. Signal Corps) Chemist, Oxford Paper Co..... *Rumford Falls, Me.*

1898.

Edwin Booth, Bank Clerk.....*Morrisville*
Lewis Charles Bump, Civil Engineer.....*Boston*
James Wilbur Cook, Western Electric Co.....*New York*
Frank Winslow Denison.....*Rutland-Canadian R. R.*
Paul Addison Dinsmoor, Law School .....*Lawrence, Ka.*
Charles Edward Duggan .....*Northfield*
George Harold Ellis, Divinity Student.....*Andover, Mass.*
Leonard Joel Parker .....*Northfield*
George Everett Talbot, with Stone & Johnston, Contractors..*Asbury, L. I.*
Arthur Ellsworth Winslow, Assistant Professor.....*Norwich University*

1899.

Frank Leroy Aldrich, City Engineer's office.....*Cambridge, Mass.*
Hezekiah Kibbe Brooks, with Wm. A. Hall.....*Bellows Falls*
Charles Horace Eaton, Assistant Engineer,
.....*Guayaquil & Quito R. R., Equador, So. A.*
George Prentice Lovell, Assistant Engineer .....*Boston & Albany R. R.*
John Pool Moseley, Western Electric Co.....*New York*
Fred Aldrich Webster, Medical Student.....*Boston*

1900.

Sanford Harris Ashley, Topographical Engineer.....*New York City*
Richard George Rich, Insurance .....*South Manchester, Conn.*
Jeffers Foster Richardson, Commission House .....*New York City*
Harold Samuel Richmond, Thayer School.....*Dartmouth College*
Berton William Sibley .....*2d Lieutenant, U. S. Marine Corps*

N. B.—For graduates before 1890, see Alumni Catalogue.

Partial List of Roads upon which Graduates and Past Cadets of Norwich University have been employed as Consulting, Constructing, Chief, Assistant or Division Engineers:

Albany Northern,
American Central,
Arexuipa & Puno (Peru),
Auburn & Syracuse,
Baltimore & Ohio,
Boston & Lowell,
Boston & Providence,
Boston & Worcester,
Burlington & Missouri,
Camden & Atlantic,
Cincinnati Western,
California & Texas,
Cayuga & Susquehanna,
Central Vermont,
Central Military Tract,
Chicago & Alton,
Chicago & Danville,
Chicago & Northwestern,
Cincinnati, Peru & Chicago,
Cleveland & Pittsburg,
Columbus, Piqua & Indiana,
Connecticut & Passumpsic,
Connecticut Valley,
Corpus Christi, San Diego & Rio Grande,
Dallas & Wichta,
Delaware & Western,
Denver & Gulf,
Denver Pacific,
Denver, Texas & Fort Worth,
Des Moines & Northern,
Des Moines & Northwestern,
Gilman, Clinton & Springfield,
Grand Rapids & Lake Shore,
Hartford & Springfield,
Hoosac Tunnel & Saratoga,
Housatonic,
Houston & Texas Central,
Houston, East & West Texas,
Hudson River,
Huntington & Broad Top,
Illinois & Wisconsin,
Illinois Central,
Indianapolis, Peru & Chicago,
International & Great Northern, (Texas),
Iona & Lansing,
Jeffersonville,
Junction City & Fort Kearney,
Kansas Central,
Kansas City & Southern,
Kansas City, Emporia & Southern,
Kansas City, Memphis & Mobile,
Kansas City Street Railway,
Kansas Pacific,
Lackawanna & Bloomsburg,
Lake Ontario Shore,
Leavenworth, Lawrence & Fort Gibson,
Lee & Hudson,
Mahoney & Susquehanna,
Manchester & Keene,
Mansfield, Coldwater & Lake Michigan.

Mexican National,
Mexican Southern,
Milwaukee & Lake Winnebago,
Milwaukee & Mississippi,
Milwaukee & Watertown,
Minneapolis & Duluth,
Mineral Belt,
Minneapolis & North Western,
Minneapolis & St. Cloud,
Mississippi & Missouri,
Missouri, Kansas & Texas,
Mobile & Ohio,
Monterey & Mexican Gulf,
Montpelier & Wells River,
Mount Washington,
Nashville & Decatur,
New Jersey Central,
New Orleans & Pacific,
Oregon Short Line.
Penn Yan, Keuka Park & Branchport,
Peoria Branch, Rock Island,
Peoria & Burlington,
Peoria & Oquawka.
Pittsburgh, Fort Wayne & Chicago,
Pittsfield & North Adams,
Plattsburgh & Montreal,
Pueblo & Arkansas Valley,
Pueblo & Salt Lake,
Racine & Mississippi,
Rock River Valley Union,
Rutland,
Rutland & Burlington,
St. Croix & Lake Superior,
St. Louis, Kansas City & North
St. Paul & Chicago,
San Antonio & Mexican Gulf,
San Francisco, (Missouri),
Saratoga & Whitehall,
Sedalia, Warsaw & Southern,
Shepaug Valley,
Southern Minnesota,
Sugar River,
Sullivan,
Sunbury & Erie,
Suncook Valley,
Texas Pacific,
Toledo, Oscaloosa & Western,
Transia, (Mexico).
Union Pacific,
Utica & Oswego,
Utica & Schenectady,
Vermont & Canada,
Vermont Central,
Vicksburg & Meridian,
Wabash,
Waterbury & Stowe,
West End, (Boston),
Whitehall & Plattsburg,
Wilmington & Reading,

and some 50,000 miles of preliminary surveys in addition.

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Samuel Adrian Thomas, Civil Engineer, Sanborn Perris Map Co., *New York City*
Dean Clyde Warren, City Engineer's Office.....*Cambridge, Mass.*

* Deceased.

OF

NORWICH UNIVER

THE MILITARY COLLEGE

OF

THE STATE OF VERMC

1902.

EIGHTY-SECOND ACADEMIC YE/

ST. ALBANS, VT.
Messenger Company Print
1901.

DUP EXCH 7 MAY 1906
NORWICH UNIV

Partial List of Roads upon which Graduates and Past Cadets of Norwich University have been employed as Consulting, Constructing, Chief, Assistant or Division Engineers:

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Auburn & Syracuse,
Baltimore & Ohio,
Boston & Lowell,
Boston & Providence,
Boston & Worcester,
Burlington & Missouri,
Camden & Atlantic,
Cincinnati Western,
California & Texas,
Cayuga & Susquehanna,
Central Vermont,
Central Military Tract,
Chicago & Alton,
Chicago & Danville,
Chicago & Northwestern,
Cincinnati, Peru & Chicago,
Cleveland & Pittsburg,
Columbus, Piqua & Indiana,
Connecticut & Passumpsic,
Connecticut Valley,
Corpus Christi, San Diego & Rio Grande,
Dallas & Wichta,
Delaware & Western,
Denver & Gulf,
Denver Pacific,
Denver, Texas & Fort Worth,
Des Moines & Northern,
Des Moines & Northwestern,
Drummond Co. (Quebec),
Elkhorn,
Everett & Monte Cristo,
Fitchburg,
Fort Wayne & Chicago,
Fort Worth & Denver City,
Gilman, Clinton & Springfield,
Grand Rapids & Lake Shore,
Hartford & Springfield,
Hoosac Tunnel & Saratoga,
Housatonic,
Houston & Texas Central,
Houston, East & West Texas,
Hudson River,
Huntington & Broad Top,
Illinois & Wisconsin,
Illinois Central,
Indianapolis, Peru & Chicago,
International & Great Northern, (Texas),
Iona & Lansing,
Jeffersonville,
Junction City & Fort Kearney,
Kansas Central,
Kansas City & Southern,
Kansas City, Emporia & Southern,
Kansas City, Memphis & Mobile,
Kansas City Street Railway,
Kansas Pacific,
Lackawanna & Bloomsburg,
Lake Ontario Shore,
Leavenworth, Lawrence & Fort Gibson,
Lee & Hudson,
Mahoney & Susquehanna,
Manchester & Keene,
Mansfield, Coldwater & Lake Michigan,
Marietta & Cincinnati,
Marion & McPherson,
Massachusetts Central,
Memphis & Charleston,
Memphis & La Grange,
Mexican International,

[illegible],

THE REV. ALLAN D. BROWN, LL. D.,
Commander, U. S. Navy (Retired).

Vice-President,
CHARLES DOLE, M. A.

Secretary.
WILLIAM A. SHAW, M. S.

Treasurer,
ETHAN A. SHAW, C. E., M. A.

Marshal,
MAJOR FRANK L. HOWE.

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Visitors, Board of	7

appointed by the Governor, in pursuance of an act of t Legislature, approved November 29th, 1898, for the Te ending December 1st, 1902:

HON. HEMAN W. MARVIN..... *Alburgh.*

FRED E. STEELE..... *Gaysville.*

JOSEPH D. DENISON..... *Randolph.*

FREDERICK P. CARLETON..... *Montpelier.*

WALTER E. RANGER..... State Superintendent of Education, *Ex-officio.*

THE REV. ALLAN D. BROWN, LL. D.,
COMMANDER, U. S. NAVY, (RETIRED),
President.

JOHN B. JOHNSON, M. A., C. E.,
Professor of Mathematics and Civil Engineering,
(With the rank of Lieutenant-Colonel.)

CHARLES C. BRILL, M. A., *Professor of Chemistry.*
(With the rank of Major.)

HERBERT R. ROBERTS, M. A.,
Professor of Latin, Greek and English,
Secretary of the Faculty.
(With the rank of Captain.)

CHARLES S. CARLETON, C. E., Captain, V. N. G.,
Professor of Military Science and Tactics,
and Professor of Field Engineering.

ETHAN ALLEN SHAW, C. E., M. A.,
Professor of Physics and Drawing.
(With the rank of First Lieutenant.)

ARTHUR E. WINSLOW, B. S.,
Asst. Professor of Mathematics and Civil Engineering.
(With the rank of Second Lieutenant.)

CARL V. WOODBURY, B. A.,
Asst. Professor of History and Modern Language.
(With the rank of Second Lieutenant.)

HENRY A. CHASE, *Instructor in Chemistry.*

FRANK H. BURR, *Instructor in Drawing.*

CATALOGUE

OF

NORWICH UNIVERSITY,

THE MILITARY COLLEGE

OF

THE STATE OF VERMONT.

1902.

EIGHTY-SECOND ACADEMIC YEAR.

ST. ALBANS. VT.
Messenger Company Print
1901.

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1905

CALENDAR.

FALL TERM, 1901.

September 19, Thursday—Term began.
December 16–19—Term Examinations.
December 19, Thursday—Term ended at noon.

WINTER TERM, 1902.

January 7, Tuesday—Term begins at Retreat.
February 21–22—Fraternity nights.
February 22, Saturday—Washington's Birthday.
March 17–20—Term Examinations.
March 25, Tuesday—Term ends at noon.

SPRING TERM, 1902.

April 8, Tuesday—Term begins at Retreat.
May 1, Thursday—Dewey Day. Admiral's Salute fired.
May 30, Friday—Memorial Day.
June 2, Monday—Senior Examinations.
June 11–13—Final Examinations.
June 14–24—Annual Encampment.
June 22—Baccalaureate Sermon.
June 23, Monday—Austin Rifle Competition.
June 24, Tuesday—Prize Speaking.
June 25, Wednesday—Annual Meeting of Trustees, Class Day, Alumni Exercises.
June 26, Thursday—Commencement Day.
June 27, Friday—Entrance Examinations in Dodge Hall, 10:30 a.m. —Term ends at noon.

FALL TERM, 1902.

September 23, Tuesday—Entrance Examinations in Dodge Hall, 10:30 a. m.; Term begins at Retreat.
December 20–23—Term Examinations.
December 23, Tuesday—Term ends at noon.

attention is paid, not only to drill in the manual of arms, the execution of tactical movements and the necessary routine of a post, but also to the development of honor, truth, candor, self-respect and loyalty. While the discipline is strict, it is not severe, the government being largely by privileges rather than by restrictions; the student being taught to do the right thing at the right time and in the right way. That discipline of this sort fits men not merely for military, but also for civil, life is shown by the success of Past Cadets in the clerical, legal, medical, engineering, journalistic and other professions. Some of the best of our railway engineering* (such as that of the Union Pacific, Northern Pacific, Denver & Rio Grande, Mexican Central, Northwestern, Great Northern, and many of the roads in Central and South America) has been done in whole or in large part, by men who have been students at this institution, and many of her graduates are to be found to-day in places of trust and responsibility.

The State of Vermont has acknowledged the University by recognizing her as The Military College of the State, by the appointment of a Board of Visitors and by making her Corps of Cadets a part of the State National Guard, in which each member is regularly enlisted. The State thus places a high valuation upon the institution as a training school for the citizen soldier, and attests its gratitude for services already rendered. For like reasons, the United States Government has detailed an officer† from the active list of the Army for duty as Professor of Military Science and Tactics, and sends an inspecting officer yearly, to note the condition of the discipline and drill.

That these inspectors find a satisfactory state of affairs is shown by their reports.

> The Inspector for 1893 said: "Although the numbers are small, it is due the institution to say that in its military system, discipline and instruction, *it stands at the head of all the colleges in this inspection.*

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* See pages 59–60. † Owing to the exigencies of the service this detail has been temporarily withdrawn.

"The system of discipline inaugurated by Captain Partridge in 1819 is still in force here, and is only modified to suit the higher condition of cultivation of the student. The discipline is still as strong, and the cadet is under a strict military regime every day and every hour that he spends at the University. He is marched to his meals, to prayers, to classroom and to church. He is taught to be neat in his person, regular in habits and methodical in work."

The Inspector for 1901 said: "The military appearance of the cadets was very good and *the inspection was satisfactory throughout.*"

The State Inspector (an officer of the Army detailed for ervice with the Vermont National Guard), also makes a yearly isit and reports to the Governor. In 1896 this officer said:

"These students are able to execute every movement in infantry drill regulations and, as far as possible without horses, artillery movements, with a correctness and precision not to be expected of any other body of troops in the State."

In 1899, this officer said:

"The entire drill was excellent. Discipline, apparently excellent. The camp was perfectly clean and well kept; the uniform is neat and appropriate, and the young men were enthusiastic in their military duties."

By her work for more than three-quarters of a century, Norwich University merits the confidence and generous support f the general public.

REPORT OF THE BOARD OF VISITORS FOR TI TERM ENDING DECEMBER 1, 1900.

IN accordance with the provisions of No. 33 of the laws 1898, being an "Act providing for a Board of Visitors a to increase the efficiency of Norwich University," the Board Visitors appointed under that Act herewith submit to yc excellency their report for the biennial term.

The Board have made three official visits to the institut and have examined the account of expenditures of the sums propriated under the Act, and the scope of the work conte plated by the various courses of instruction as laid down in curriculum, and the facilities at the command of the officers the institution for carrying out the provisions of its charter.

We observe that the institution is practically and essentia a Scientific and Military University, although the courses Arts and Literature are by no means neglected.

The number of students on the rolls for the year ending Ju 1899, was fifty four, of which thirty were State Scholarshi three Alumni Scholarships, eleven paying students and ten fr

For the year ending June, 1900, the number of students rolled was seventy nine, of which thirty were State Schol ships, three Alumni Scholarships, twenty paying students a twenty-six free. Thus the State appropriation, provided the Act above referred to, has enabled the institution to incre its attendance by twenty five additional students of which n were paying students and sixteen free. Not only that, but facilities and accommodations have been improved, thereby viting an increasing attendance; therefore the immediate eff of this Act has been to increase the number of students, as Vermont boy who is unable to pay his tuition has been debar from admission for this cause, free scholarships having be granted in excess of the thirty Senatorial Sch vided under former legislat

The records show that over six hundred cadets of Norwich University have served in the Army and Navy at various periods: the Mexican, Civil and Spanish wars, with their call for volunteers, brought N. U. men into service of the country: quite a number of her cadets have also served in the regular Army, there being now seventeen representatives in active service

The good effects of the training received here are shown in other professions also: as is to be expected, the greater number of her men have pursued the course in Civil Engineering, and some of the best of our railway engineering has been done in whole, or in a large part, by her students; her men have been successful also in the pulpit, as well as in the legal and medical professions.

The value of her military training is well shown by the fact that within fifteen days after the declaration of war with Spain, the President of the University was able to inform the Governor that he had a list of men who had authorized him to tender their services, sufficient in number to officer an entire regiment.

The beneficial results of the appropriation referred to seem a beginning, which warrants the prediction that in time to come with this aid available, a large and powerful institution redounding much to the credit of the State will be the logical result.

Respectfully submitted,

E. W. SLAYTON,
F. E. STEELE,
F. G. BUTTERFIELD,
H. G. MARVIN,
MASON S. STONE,
Board of Visitors.

To His Excellency,
E. C. SMITH,
Governor.

[illegible] *Law and Social Sci*

[illegible] HOWARD, U. S. Army,
Military His

[illegible] CHARLES H. STOCKTON, U. S. Navy,
[illegible] College Newport, Rhode Island.
International L

[illegible] M. S.,
[illegible] *Bureau: Meteoro*

[illegible] ROBERTS, ***Librarian.***

[illegible] SWANN, ***Janitor.***

Norwich University

Was founded at Norwich, Vermont, in 1819, by Captain Alden Partridge, and was known as the American Literary, Scientific and Military Academy. It retained the name until November 6, 1834, when a charter of incorporation was granted it by the State of Vermont, under the name of Norwich University, which thus became the *first* Scientific and Classical, as well as the first Military, Collegiate Institution in the United States. Its success was immediate, and every State in the Union had, in its early days, representatives among its students.

In March, 1866, the buildings at Norwich were destroyed by fire, and the University was removed to Northfield, Vt., where the citizens had offered fine grounds and commodious barracks.

It is a characteristic and peculiar feature of the institution that, in addition to the usual collegiate courses, the charter requires "a course of military instruction, both theoretical and practical." For this reason the discipline is, of necessity, military in form and principle, being modeled after that of the National Military Academy at West Point, of which Captain Partridge was, at one time, the Superintendent; and from its foundation to the present time it has held the distinction of being the foremost military institution in the land, West Point and Annapolis alone excepted. Her sons have done yeoman service in both Army and Navy; from her founder, Captain Partridge, and her second President, Truman B. Ransom, who resigned his chair to lead the 9th New England in the Mexican War (falling at the head of his regiment at the assault of Chapultepec, in September, 1847), through a long line of distinguished men in the Civil and Spanish Wars, until to-day, when her graduates are still to be found in both the services.

The late General William Tecumseh Sherman said of the University: "This military school at one time almost rivaled the National Academy at West Point, and there many a man, who afterward became famous in the Mexican and Civil Wars,

first drank in the inspirations of patriotism and learned the lessons of the art of war."

To the discipline and instruction received at this institution, is due the reputation acquired by many of the New England (and other) regiments; and the "Green Mountain Boys" (whose record in the Civil War is second to none) owe their success and renown, largely to the training received within her halls. The Honor Roll of the Civil War contains the names of many generals (among them those of G. P. Buell, Burton, G. M. Dodge, Lander, Milroy, T. E. G. Ransom, Truman Seymour, Seth Williams, P. V. Hagner, late Chief of Ordnance U. S. A.), a large number of colonels and other field officers, also of line and non-commissioned officers, together with Rear Admirals Paulding and Carpenter, Captains Ward and Colvocoresses, Lieut.-Commander Dewey, and many others of the Navy.

More than fifty of her Past Cadets served in the late war with Spain, chief among them being ADMIRAL DEWEY, the Victor of Manila, Brig.-Gen'l Williston, Col. Edmund Rice (of whom General Miles has said that "he had the best regiment in the Army of the Potomac"), Captain Converse and Commander Colvocoresses of the Navy, and others of less rank in both branches of the service. A number of her Past Cadets are serving in both Army and Navy on the active list; with the increased demand for officers of the Army which West Point is unable to supply, there is no reason why young men inclined to Army life should not prepare themselves for it, with as much certainty of success as in any other profession; and no better preparation can be found for obtaining a commission through the ranks than the courses offered here.

COMMISSIONS IN THE ARMY

It has always been, and still is, the highest endeavor of the Trustees and the Faculty to maintain, in every respect, the high military character of the University, bearing in mind the fact that the aim of any scholastic institution should be not merely to graduate scholars, but to make men. To this end special

attention is paid, not only to drill in the manual of arms, the execution of tactical movements and the necessary routine of a post, but also to the development of honor, truth, candor, self-respect and loyalty. While the discipline is strict, it is not severe, the government being largely by privileges rather than by restrictions; the student being taught to do the right thing at the right time and in the right way. That discipline of this sort fits men not merely for military, but also for civil, life is shown by the success of Past Cadets in the clerical, legal, medical, engineering, journalistic and other professions. Some of the best of our railway engineering* (such as that of the Union Pacific, Northern Pacific, Denver & Rio Grande, Mexican Central, Northwestern, Great Northern, and many of the roads in Central and South America) has been done in whole or in large part, by men who have been students at this institution, and many of her graduates are to be found to-day in places of trust and responsibility.

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* See pages 59–60. † Owing to the exigencies of the service this detail has been temporarily withdrawn.

The Inspector for 1896 said. "The appearance, bearing, steadiness and behavior were excellent. * * * I was favorably impressed with the condition of the military department"

The Inspector for 1897 said: "An inspector finds himself out of place here, except in so far as his commendation may be of some use. Parents who are in search of some institution where self-control and self-discipline (all important factors in future success) are made prominent features, and receive special attention in the education, might do well to visit Norwich University.

"The system of discipline inaugurated by Captain Partridge in 1819 is still in force here, and is only modified to suit the higher condition of cultivation of the student. The discipline is still as strong, and the cadet is under a strict military regime every day and every hour that he spends at the University. He is marched to his meals, to prayers, to classroom and to church. He is taught to be neat in his person, regular in habits and methodical in work."

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IN accordance with the provisions of No. 33 of the laws of 1898, being an "Act providing for a Board of Visitors and to increase the efficiency of Norwich University," the Board of Visitors appointed under that Act herewith submit to your excellency their report for the biennial term.

The Board have made three official visits to the institution and have examined the account of expenditures of the sums appropriated under the Act, and the scope of the work contemplated by the various courses of instruction as laid down in the curriculum, and the facilities at the command of the officers of the institution for carrying out the provisions of its charter.

We observe that the institution is practically and essentially a Scientific and Military University, although the courses in Arts and Literature are by no means neglected.

The number of students on the rolls for the year ending June, 1899, was fifty four, of which thirty were State Scholarships, three Alumni Scholarships, eleven paying students and ten free.

For the year ending June, 1900, the number of students enrolled was seventy nine, of which thirty were State Scholarships, three Alumni Scholarships, twenty paying students and twenty-six free. Thus the State appropriation, provided in the Act above referred to, has enabled the institution to increase its attendance by twenty five additional students of which nine were paying students and sixteen free. Not only that, but the facilities and accommodations have been improved, thereby inviting an increasing attendance; therefore the immediate effect of this Act has been to increase the number of students, as no Vermont boy who is unable to pay his tuition has been debarred from admission for this cause, free scholarships having been granted in excess of the thirty Senatorial Scholarships as provided under former legislation.

ADMISSION Candidates for admission must be at least sixteen years of age, and must present satisfactory evidence of good moral character. Application blanks will be furnished by the President when requested. No person will be admitted who is less than five feet in height, or who is deformed, or afflicted with any disease or infirmity which would render him unfit for military duty, or who has at the time of presenting himself any disorder of an infectious or immoral character.

After matriculation and before enlistment, a physical examination is held by the surgeon, and this examination is repeated at intervals throughout the course. As a proof of the value of the physical exercise afforded by the military training, it may be stated that a recent freshman class showed an average increase in weight of 6.69 pounds; in chest expansion of .71 in.; in girth of thigh of 1.28 in.; in girth of calf of .47 in.; in girth of arm of .41 in.; and in girth of fore-arm of .37 in.; in no case was there a decrease.

EXAMINATIONS FOR ADMISSION.*

All candidates are examined in the following subjects:

MATHEMATICS.

Arithmetic; Algebra to Quadratics; Geometry; first four books, Davies' Legendre, or an equivalent.

ENGLISH LANGUAGE.

Grammar; Composition with special attention to punctuation and the use of capitals.

GEOGRAPHY.

Physical and Political Geography.

HISTORY.

History of the United States.

Those desiring to take the course in

SCIENCE AND LITERATURE,

are examined also in

LATIN:

Cæsar's "Commentaries," four books, or Sallust's "Cataline;" Virgil's "Æneid," six books; Cicero, four orations.

* Held in Dodge Hall on the Friday after Commencement and on the first day of the Fall Term, at 10:30 a. m. All new cadets are required to report at the last mentioned time.

The good effects of the training received here are shown in other professions also: as is to be expected, the greater number of her men have pursued the course in Civil Engineering, and some of the best of our railway engineering has been done in whole, or in a large part, by her students; her men have been successful also in the pulpit, as well as in the legal and medical professions.

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F. E. STEELE,
F. G. BUTTERFIELD,
H. G. MARVIN,
MASON S. STONE,
Board of Visitors.

To His Excellency,
E. C. SMITH,

SPRING TERM.

Artillery Drill.
Rifle Practice.
Battalion Drill.
Ceremonies.
Signaling.
Lectures on Customs of the service.
Encampment.

The Cadets are at all times under military discipline, and strict observance of military customs is required.

Cadets are detailed as Officer of the Day, of the Guard, etc., in their turn, are instructed in making out the different kinds of military reports, and are trained in the duties incident to field or garrison.

The Cadet Officers are appointed in accordance with their academic and military standing and deportment.

EXAMINATIONS Are held from time to time in the tactics, orders, duties and customs of military service, in order to insure familiarity with them.

ENCAMPMENT An encampment of ten days is held near the close of the spring term, and the Cadets receive instructions in the details of camp life, together with guard duty. This encampment is an essential portion of the Military Course and all Cadets are required to be present thereat, as a part of the obligation assumed by them upon enlistment. There is at this time an inspection by the Adjutant-General of the Vermont National Guard, or by an officer detailed for the purpose.

PRACTICE MARCHES The Encampment may be varied by practice marches about the State. During the encampment, and on the march, the Cadets are at all times under the command of the Commandant, who is responsible for their conduct.

ACADEMIC COURSES.

Four regular courses have been established, as follows:

I. Civil Engineering.
II. Arts.
III. Chemistry.
IV. Science and Literature.

The courses in Civil Engineering and Chemistry have a distinctly practical bearing, and give a thorough training for these technical professions.

The course in arts embraces the usual classical course with French or German, Physical Science, etc., etc.

The course in Science and Literature is intended for such as may not wish to pursue a full course in Classics or Mathematics, or one for a distinctly scientific profession. It is so arranged that it may be taken either with or without Latin. Candidates for this course without Latin will be required to show an equivalent amount of work in other branches.

Each of these courses extends through four years, and is intended to give the student a liberal preparation for the duties of life.

Changes are made in the course in Chemistry to meet the wants of students preparing for Medicine and Pharmacy.

I. THE COURSE IN CIVIL ENGINEERING.

Leading to the degree of Bachelor of Science in Civil Engineering.

NOTE.—The figures after each subject indicate the number of recitation periods of sixty minutes each per week.

FRESHMAN YEAR.

FALL TERM.

Algebra.....5	Rhetoric.....3
French or German.....3	Free-hand Drawing.....4
Inorganic Chemistry.....3	
(text 2, laboratory 1.)	

WINTER TERM.

Geometry.....5	Rhetoric.....3
French or German.....3	Lettering.....2
Inorganic Chemistry.....3	Tinting and Shading.....2
(text 2, laboratory 1.)	

SPRING TERM.

Trigonometry.....5	Rhetoric.....3
French or German.....3	Mechanical Drawing.....4
Inorganic Chemistry.....3	
(text 2, laboratory 1.)	

Beginning on the first day of September.

FALL TERM.

Mechanics of Engineering—
Statics and Dynamics.....5
Geology.....3
Least Squares.....2
Geodetic and Mining Surveying...5
Colored and Pen Topography 3

WINTER TERM.

Mechanics of Engineering—
Materials.....5
Blowpipe Analysis and Determinative Mineralogy 2
Qualitative Analysis.....4
Trusses and Arches.....2
Graphics of Trusses and Arches...3

SPRING TERM.

Stone Cutting 4
(text 2, drafting 2.)
Mechanics of Engineering—
Hydraulics, Retaining Walls, Masonry Dams.....5
Botany.....3
Railroad Engineeering (curves, turnouts and practical location of railway).....6
(text 2, field work 4.)
Bridge Stresses.....6
(text 2, drafting 4.)

SENIOR YEAR.

SUMMER SCHOOL OF THREE WEEKS.

Beginning on the first day of September.

FALL TERM.

Commercial Law 3
Metallurgy 2
Bridge Designing 2
Railroad Maps 3
Hydraulics 4

WINTER TERM.

Constitutional or International Law 3
Water Supply and Sanitary Engineering 3
Materials of Engineering—Foundations, Canals, Highways.....5
Design of Bridges 6
Meteorology 2

SPRING TERM.

Spherical Astronomy—
Determination of Time, Latitude, etc 5
Contracts and Specifications.....3
Political Economy.....3
Highway Engineering 2
Railroad Engineering 3

II. THE COURSE IN ARTS.

Leading to the Degree of Bachelor of Arts.

FRESHMAN YEAR.

FALL TERM.

Algebra 5
Memorabilia and Greek Prose....3
Livy and Latin Prose.....3
Rhetoric 3
Inorganic Chemistry.....3
(text 2, laboratory 1.)

WINTER TERM.

Geometry 5
Herodotus 3
Tacitus—Germania 4
Rhetoric 3
Inorganic Chemistry.....3
(text 2, laboratory 1)

SPRING TERM.

Trigonometry 5
Homer's Odyssey.....3
Cicero—
De Senectute, De Amicitia.....3
Rhetoric 3
Inorganic Chemistry.....3
(text 2, laboratory 1.)

SOPHOMORE YEAR.

FALL TERM.

Sophocles 3	Land Surveying 6
Juvenal's Satires or Ovid 3	(text 2, field work 4.)
Mechanics and Heat 3	State 3
	English Literature 3

WINTER TERM.

Demosthenes 3	State 3
Horace—Odes and Epodes 3	English Literature 3
Acoustics and Optics 3	

SPRING TERM.

Æschylus 3	State 3
Horace—Satires and Epistles 3	English Literature 3
Electricity and Magnetism 3	

JUNIOR YEAR.

FALL TERM.

Demosthenes 2	French or German 3
Pliny 2	State 3
Geology 3	English Literature 3

WINTER TERM.

Plato 2	State 3
Plautus 2	English Literature 3
French or German 3	

SPRING TERM.

Greek Syntax 2	State 3
Latin Syntax 2	English Literature 3
French or German 3	

SENIOR YEAR.

FALL TERM.

Analytical Chemistry 6	Commercial Law 3
French or German 3	Psychology 3

WINTER TERM.

French or German 3	Constitutional Law 3
International Law 3	Logic 3
	Meteorology 2

SPRING TERM.

French or German 3	Ethics 3
Political Economy 3	Astronomy 5

III. THE COURSE IN CHEMISTRY.

Leading to the degree of Bachelor of Science in Chemistry.

FRESHMAN YEAR.

FALL TERM.

Algebra	5	Rhetoric	3
French or Latin*	3	Free-hand Drawing	4
Inorganic Chemistry (text 2, laboratory 1.)	3		

WINTER TERM.

Geometry	5	Rhetoric	3
French or Latin	3	Lettering	2
Inorganic Chemistry (text 2, laboratory 1.)	3	Tinting and Shading	2

SPRING TERM.

Trigonometry	5	Rhetoric	3
French or Latin	3	Mechanical Drawing	4
Inorganic Chemistry (text 2, laboratory 1.)	3		

SOPHOMORE YEAR.

FALL TERM.

French or Latin	3	Qualitative Analysis	10
Mechanics and Heat	3	English Literature	3

WINTER TERM.

French or Latin	3	Blowpipe Analysis	6
Acoustics and Optics	3	Qualitative Analysis	6
		English Literature	3

SPRING TERM.

French or Latin	3	Qualitative Analysis	10
Electricity and Magnetism	3	Quantitative Relations	3
		English Literature	3

* Requires the same preparation as for the Course in Science and Literature.

JUNIOR YEAR.

FALL TERM.

Geology.....3	Zoölogy 2
Organic Chemistry 2	English Literature.....3
Gravimetric Analysis.....10	German.....3

WINTER TERM.

Organic Chemistry 2	English Literature.....3
Gravimetric Analysis.....12	German.....3

SPRING TERM.

Organic Chemistry 2	English Literature.....3
Volumetric Analysis.....10	Botany.....3
German.....3	

SENIOR YEAR.

FALL TERM.

Commercial Law 3	Toxicology 6
Metallurgy 2	Medical Chemistry.....6
German.....3	

WINTER TERM.

Constitutional Law 3	Food Analysis.....12
International Law.....3	Meteorology.....2
German.....3	

SPRING TERM.

Political Economy.....3	Water Analysis.....10
German.....3	

IV. THE COURSE IN SCIENCE AND LITERATURE.

Leading to the degree of Bachelor of Science.

(Subjects in brackets [ ] for students not taking Latin.)

FRESHMAN YEAR.

FALL TERM.

Algebra 5	Rhetoric 3
Livy and Latin Prose.....3	French..... 3
Inorganic Chemistry.....3	[Free-hand Drawing.....4]
(text 2, laboratory 1.)	

WINTER TERM.

Geometry.....5
Tacitus—Germania.....3
Inorganic Chemistry.....3
(text 2, laboratory 1.)
Rhetoric.....3
French.....3
[Lettering, Tinting and Shading.4]

SPRING TERM.

Trigonometry.....5
Cicero—
De Senectute, De Amicitia.....3
Inorganic Chemistry.....3
(text 2, laboratory 1.)
Rhetoric.....3
French.....3
[Mechanical Drawing.....4]

SOPHOMORE YEAR.

FALL TERM.

Juvenal's Satires.....3
Mechanics and Heat.....3
French.....3
Land Surveying.....6
(text 2, field work 4.)
State.....3
English Literature.....3
[Analytical Geometry.....5]

WINTER TERM.

Horace—Odes and Epodes.....3
Acoustics and Optics.....3
French.....3
State.....3
English Literature.....3
[Differential Calculus.....5]

SPRING TERM.

Horace—Satires and Epistles.....3
Electricity and Magnetism.....3
French.....3
State.....3
English Literature.....3
[Integral Calculus.....5]

JUNIOR YEAR.

FALL TERM.

German.....3
Geology.....3
Zoölogy.....2
State.....3
English Literature.....3

WINTER TERM.

German.....3
Analytical Chemistry.....6
Blowpipe Analysis.....2
State.....3
English Literature.....3

SPRING TERM.

German 3
Botany 3
Analytical Chemistry.....6
State.....3
English Literature 3

SENIOR YEAR.

FALL TERM.

German.....3
Commercial Law 3
Metallurgy 2
Psychology.....3

WINTER TERM.

German 3
International Law.....3
Meteorology.....2
Constitutional Law 3
Logic 3

SPRING TERM.

German.....3
Political Economy 3
Astronomy 5
Ethics 3

TEXT BOOKS AND BOOKS OF REFERENCE.

MATHEMATICS.

Algebra.....Wells' University
Geometry.....Phillips & Fisher
Trigonometry....Phillips & Strong
Analytical Geometry .....Loomis
Calculus .....Taylor
Descriptive Geometry.....Church
Mechanics .....Wood
Least Squares .....Merriman
Astronomy .....White

ENGINEERING.

Surveying .....Johnson
Railroad Surveying .....Carhart
Bridge Stresses .....Merriman
Civil Engineering ... { Panton and Trautwine
Specifications.....Johnson
Hydraulic Engineering ....Folwell
Sanitary Engineering .....Folwell
Stereotomy .....Mahan
Stresses in Framed Structures ..... { Johnson and Bryant
Wellington's Earth Work Computation.
Foundations .....Patton
Bridge Designing.....Merriman
Hydraulics .....Merriman

SCIENCES.

Botany—Gray's Manual and Lessons.
Chemistry—Inorganic ....Shepard
Chemistry, Analysis, Qualitative, Elliot, Fresenius.
Volumetric Analysis .....Sutton
Analysis, Quantitative.....Evans Fresenius.
Organic Industrial Chemistry, Sadtler.
Blowpipe, Plimpton's Qualitative, Plattner's Qualitative and Quantitative, by Cornwall.
Metallurgy and Assaying, Hiorn's Text-Book of Elementary Metallurgy, Hiorn's Practical Metallurgy and Assaying.
Medical Chemistry, Ralfe's Clinical Chemistry.
Organic .....Remsen
Food Adulteration and its Detection.....Battershall, Blyth
Toxicology.....Blyth
Physics—Principles of Physics, Gage.
Zoölogy .....Packard
Practical Zoölogy....Marshall and Hurst.
Geology.....Le Conte's Compend
Mineralogy, Dana's Manual, and Foye's Tables.

Rhetoric..Hill's Principles of Practical Rhetoric.
Genung's Practical Rhetoric.
Lewis' Inductive Rhetoric.
Elocution—Clark's Notes on Reading.
Bacon's Manual of Gesture.
English Literature.....Arnold

MILITARY SCIENCE.

Drill Regulations for Infantry and Artillery.
Small Arms Firing Regulations.
Wagner's Organization and Tactics.
Wagner's Security and Information.
Batchelor's Fire Discipline.
Winthrop's Military Law.
Manual of Field Engineering.
Also other books and publications which are found suitable for instruction in military work.

DEGREES, ETC.

The candidate for any degree must deposit with the faculty a satisfactory thesis on some scientific or literary subject connected with his department.

DEGREES OF GRADUATION

The degree of Bachelor of Science in Civil Engineering is conferred upon any student who has completed the course in Civil Engineering.

The degree of Bachelor of Arts is conferred upon any student who has completed the course in Arts.

The degree of Bachelor of Science in Chemistry is conferred upon any student who has completed the course in Chemistry.

The degree of Bachelor of Science is conferred upon any student who has completed the course in Science and Literature.

ADVANCED DEGREES The degree of Master of Arts, or Master in Science, including that of Civil Engineer, may be conferred on graduates of two years' standing, of this or any other reputable college, who have spent at least one year in post-graduate studies under the direction of the faculty, and on graduates of three years' standing who have during that time been engaged in professional, literary or scientific pursuits, or have pursued a course of liberal study, subject to the approval of the faculty.

Candidates for either degree are required to present a thesis upon some branch of liberal study pursued since graduation, and to pass an examination before the faculty. The thesis must be presented at least three weeks before commencement and a copy furnished to be placed in the library of the University.

TEACHER'S CERTIFICATES In accordance with the decision of the State Superintendent of Education, "Graduates are entitled to a five years' teacher's certificate without examination."

COMMISSIONED OFFICERS Upon graduation, Cadet Officers receive commissions signed by the President of the University, and by the Adjutant and Inspector-General of the State.

SUBJECTS AND METHODS OF INSTRUCTION.

CIVIL ENGINEERING. The thorough training of the eye and hand in Free-hand Drawing is of the greatest importance in all subsequent drafting. The course embraces accurate outline drawing, elementary, perspective, sketching, object drawing, pencil shading and designing. The effort is made to produce designers, instead of mere copyists. Practice in lettering, large and small drawings, general orders, etc., also in tinting and shading with the right line pen, and

with brush and water colors is given in the second term. Neatness of text and rapidity of execution are aimed at. In the third term, dexterity in handling drafting instruments is acquired. Various applications of geometry to drafting, and the orthographic and isometric projections of joints and splices in wood construction are taught. Descriptive Geometry is taught in the fifth and sixth terms, with special reference to its application to shades and shadows, machine construction, stone cutting, and to the designs of stone bridges, culverts, spiral stairways, sewer intersections, etc.

The course in bridges begins with the drawing of details, which are measured by students while visiting engineering structures. Thus, while the student acquires facility in drawing, he becomes familiar with the various details of a bridge. An extended course in Bridge Stresses is given in the ninth term, and in the eleventh term the student is given specifications, and required to apply his theoretical knowledge in designing railway and highway bridges of wood, iron and steel, to the minutest details. In Pen topography and Colored topography the students use the conventions for map making, and apply them in the maps platted from the land and railroad surveys.

An extended course in Applied Mathematics or Mechanics of Engineering is given, in which engineering problems concerning rigid bodies at rest or in motion, the strength of engineering materials, and the statics and dynamics of liquids and gases, are practically treated.

The Laboratory work of the eighth term, and the Metallurgy of the tenth, enable the student to study the materials of engineering with regard to strength and constituents. Under Hydraulic, Sanitary and Civil Engineering, the design and construction of water supply and distribution systems, sewarage systems, and sewarage disposal, and of canals, tunnels, foundations in water and on land, and river and harbor improvements, are treated.

Six hours of drafting per week are required throughout the course, and while the above subjects are being studied, numer-

ous designs of engineering structures are made in the drafting room. In the reading room are placed the best of engineering periodicals, which give descriptions of all new works of special interest, and enable the students to keep up with the latest methods of construction.

In Land Surveying and Levelling, practice in using and adjusting instruments is given, and the most improved methods of map making, dividing up and parting off land, and supplying omissions in old surveys are taught, both in class room and field. The Advanced Surveying of the sixth term includes Topographical, Geodetic, and City Surveying, with field work and practice in the drawing room.

The Highway Engineering of the last term is calculated to teach the students the essential principles of this branch of engineering, which has become so prominent.

In Railroad Surveying the field work consists of preliminary surveying, final location, slope staking, etc. Office work is given in making contour maps of the line, profiles, earthwork calculations, estimates of cost, etc. The lectures on Economic Railway Location enable the student to decide between two or more proposed railway lines, and to reduce expenditures in the operation of lines already built.

In the last term, students are required to make specifications and contracts for engineering projects of their own design. The course given in this term in Astronomy provides the engineer with as much of this subject as his profession requires.

EQUIPMENT

The department has a collection of designs for Free-hand and Perspective Drawing, and for modern houses, cottages, public buildings and architectural details. It has also collections of blue prints of the best modern bridges, including pivot draws, plate girders, and various types of pin-connected and riveted trusses, as well as of sewer details and sewer constructions.

The students have the use of the best modern instruments for angle and line measurement, including transits, compasses, levels, plane table, sextant, rods, chains, etc., and have much

more practical engineering field work than is usually given, with with the first-class instruments now used in modern engineering.

SUMMER SCHOOL A course of practical field work uninterrupted by the daily routine, is pursued by the Seniors and Juniors for three weeks, beginning on the first day of September.

MATHEMATICS In the department of Mathematics, sufficient attention is paid to practical applications to enable students to see the utility of their studies and to assist them in the scientific professions.

Theory is developed in as careful and complete a manner as possible, in order that the student may receive that mind discipline, which is so valuable an equipment for all pursuits, whether technical or general. The clearest and most concise text-books are sought for; abtruse and unprofitable discussions are avoided; original work is encouraged, and students are called on for personal recitations more frequently than in most institutions of similar character.

GEOLOGY AND MINERALOGY The treatment of Geology consists of text-book work, supplemented by frequent excursions in the field, in which the many interesting features of the region are examined. Colored maps, representing the geological formations of counties or large sections, are required. Mineralogy is taken up in connection with Geology, the student being required to identify minerals by their physical properties. In connection with this work each student is required to make a collection of fifty minerals, which he determines and classifies. To aid him in his work, he is given instructions in Blow-pipe Analysis and Determinative Mineralogy.

HISTORY AND POLITICAL SCIENCE The course of History affords a connected and comprehensive view of the history of civilization from the earliest times to the present. By investigating the causes which underlie the world's history, the instruction aims, not only to train the memory and develop the reasoning faculties, but to fit men to deal wisely with those practical social questions of the present,

upon whose solution the experience of the past throws the most valuable light. Particular attention is given to the constitutional development of England and of the United States.

Political Economy is taught in the Senior year by means of text-books, lectures and informal discussions. A theoretical view of the subject is followed by a practical study of Land and Labor Questions, Socialism, Finance, Public Credit, the Principles of Taxation and Tariffs.

PSYCHOLOGY An examination of the different sources of knowledge, an analysis of the various mental states, and a classification of the faculties, are followed by a study of the relation of psychology to education, for the benefit of those students who may desire to engage in teaching. The laws governing the processes of acquiring and reproducing knowledge, the development of the faculties, together with the ways in which they interact one on another, and the play of motives, furnish the foundation of rational instruction and government, and are of special value to the teacher.

LOGIC Logic is taught by recitations and informal lectures. The objects of this study are to give the student vigorous mental discipline, training in exactness, and certainty in thinking, skill in detecting fallacy, and assistance in all the sciences by directing attention to those points of method in each science, which the cultivator is apt to neglect in his zeal for the subject matter of each.

MODERN LANGUAGES The chief aim of this department is to enable the student to read French and German with ease and fluency By this method it is intended, not only to familiarize the ear with the spoken language, and thus to lay the best ground-work for conversation, but also to render easy and intelligible the grammar work and reading which follow.

After a thorough course in the essentials of grammar, accompanied with composition, and the reading of easy prose, various selections of prose and poetry from the best authors are read.

Much attention is given to the relation of the languages to English and to each other, especially in the matter of derivative and cognate work.

To enrich the student's English vocabulary, to cultivate his taste for good literature, and to broaden his mental horizon, are further objects of the instruction.

RHETORIC, ENGLISH CRITICISM, ELOCUTION

The instruction in this department aims to deal in the most practical way with the composition and delivery of good English.

In Rhetoric, to which subject is devoted three hours each week during the Freshman year, much of the time is spent in the application of the principles of Rhetoric to the correction of faulty sentences. This instruction is supplemented during the remainder of the course, by lectures on the higher qualities of style, in connection with the essay work. As to punctuation, paragraphing, etc., students are required to present their essays and manuscript orations in proper form for publication.

In English Criticism, while it is sought to eradicate faults of style, especial attention is given to the development of the student's individuality and power of expression. An important feature is the critical examination of English prose masterpieces, which is made in connection with the study of English Literature. Essays and orations are carefully revised, returned to the writers for correction, and afterward read and criticised in class. That the student may learn to study his subject comprehensively, and to arrange its parts logically, instruction is given in the formation of essay outlines.

In Elocution, the chief ends sought are distinct and forcible utterance, just emphasis, and ease and naturalness of expression.

Much stress is laid upon the subject of extempore speaking. Practice is given also in declamations, essays, etc., and the endeavor is made to cause the acquirement of that ease and fluency in public speaking which is so important a factor in the various walks of life.

BOTANY The course in Botany begins in the spring term of the Junior year, and comprises Vegetable Morphology and Physiology, Plant Analysis, and the preparation of Herbaria.

The life history of vegetation is traced from seed through stems and roots, leaves, branches, buds, flowers and fruit, to seed again.

Gray's lessons are used, with lectures and field work. A few of the more difficult orders of Phænogams are studied. Attention is given to the various kinds of parasitic fungi so destructive to crops.

ZOÖLOGY Structural Zoölogy is taught by recitations and by laboratory demonstrations. Dissections and drawings are made of representative species in each group of animals. The purpose of this course is to give the student a definite conception, by means of sense-images, of the characteristic structure of the leading modifications of the Animal Kingdom.

CLASSICS It is the aim of the Classical Department to make the work as thorough as possible, and to give the student a general literary culture. A thorough knowledge of grammatical form is considered necessary, and especial attention is given during the first year to etymology and syntax, vocabulary and idioms. In this manner not only is a thorough knowledge of the language obtained, but the greatest possible amount of mental discipline is derived. The similarity between the Greek and Latin on the one hand, and the English on the other, is pointed out, and especial study is given to roots from which English words are derived. The course is designed to embrace all the leading classes of composition in Greek and Roman Literature, and to afford accurate historical knowledge of the Greek and Latin characters and customs. Attention is given to right translation, and care is taken that the student translate into good English, that he may thus improve his knowledge of English in the study of the classics.

; a description of the properties
and of the methods used for preparing them. To
work more clearly before the student, a large number of experiments are performed before this class, in many of which the students are permitted to assist.

In addition to the recitations, one period a week is devoted to laboratory practice, in which the student performs for himself the experiments given in the section room. The second year's work is intended for those who take the Chemical Course, and consists of daily laboratory practice. The work of this and of the following years is performed by the students themselves, under the direction of the professor and his assistant. Qualitative examinations, and as the student becomes more advanced quantitative examinations, of minerals, commercial products, fertilizers, drugs and medicines are made. For those students desiring to fit themselves for the study of Medicine and Pharmacy, special instruction is provided in the Chemical Laboratory.

Three hours a week, during the Sophomore year, of all courses, are devoted to the subject of Physics.

From this brief outline it will be seen that the aim in all
is to teach the practical application of the prin-
to give to our graduates that

Young men residing in Vermont, who may be desirous of obtaining a State scholarship, should apply first to the PRESIDENT for information as to whether a vacancy exists in their county. Learning of a vacancy, application for appointment should then be made to one of the county Senators.

The CHAUNCEY DENNY Scholarship, for residents of Northfield was founded by the late Chauncey Denny, for many years a member of the Board of Trustees.

The CLASS OF 1901 has also founded a scholarship.

In addition to the above there are several whole and half-scholarships, information regarding which may be obtained on application to the PRESIDENT.

EXPENSES. The charge for the academic year, including Board, is $227.00, payable as follows:

Fall Term	$ 96.00
Winter Term	65.00
Spring Term	66.00
	$227.00

The rooms are generally unfurnished; in a few cases where the room furniture is the property of the University, a small annual rental is charged. The cost of furnishing a room is about $15.00 to each occupant; this furniture is of prescribed pattern.

The Barracks are lighted by electricity and heated by steam, the charge for these being included in the bill for the Fall Term.

Students should bring all their bed linen (for single bed), blankets, pillow and towels.

PAYMENT OF BILLS *All bills are payable in advance, by the first Friday of each term, and cadets will not be admitted to the privileges of the section rooms until their bills are paid.* The Treasurer will be in attendance at his office daily, until the expiration of the time for this payment.

If for any reason, delay in payment is desired, satisfactory arrangements must be made therefor in writing, prior to this time.

No cadet in debt to the University will be permitted to enter the examinations at the close of a term.

No deduction is made for absence from the Mess Hall, unless such absence is continuous for at least one week; and then only on approved application for leave, and notice given in writing to the Mess Hall by the cadet.

FEES Students in the Course in Chemistry are required to deposit $10 at the beginning of each term of the Sophomore, Junior and Senior years, the amount not consumed being returned at the end of each term.

The average expense for materials for students in the Chemical course is from $6 to $8 per term.

In the Engineering course in Qualitative Analysis, $3 is charged in the second term of the Junior year. In the other courses a fee of $5 per term is charged for Qualitative Analysis.

A fee of $3 per term is charged for Determinative Mineralogy.

A chemical fee of $1 per term is charged members of the Freshman class.

These charges are for chemicals, and do not include breakage or waste of materials.

The fee for the Summer School in the Engineering Course is $5; persons not cadets, who are properly prepared, may join this school, the fee being $25. Subsistence and other necessary expenses are not included in these amounts.

A fee of $1.00 per term is charged to Engineering students engaged in field work.

A deposit of fifty cents is required for each room key obtained by a cadet; returnable when the key is returned.

POSITIONS FOR ALUMNI Alumni desiring positions may send their addresses to the President, as he is frequently in receipt of applications for our men.

THE REVEILLE The Cadets conduct a monthly magazine devoted to the interests of the University, the Alumni, and the Corps.

READING ROOM The Reading Room is provided with many of the leading literary, political and technical periodicals of the day, under the direction of a committee composed of two members of the Faculty and one Cadet.

STUDENTS' SOCIETIES Two fraternities, A Σ P and Θ X, exist among the students (having been founded some forty years ago), in which valuable literary work is done, while at the same time social privileges are enjoyed.

RELIGIOUS FEATURES Prayers are held in the morning before the opening of academic exercises, the President officiating. On Sunday morning each Cadet is required to attend divine service with some one of the village congregations, the choice being made at the beginning of the term, and adhered to throughout the term. The religious societies of the village are: Congregational, Episcopal, Methodist, Roman Catholic and Universalist. While Cadets are held to a strict observance of the rules for religious exercises, and while all immoralities are carefully guarded against, yet the institution is in every respect non-sectarian.

ACADEMIC HONORS A Cadet having a general average for the year of 90 or more receives "honorable mention;" having 90 or more in all branches for the year receives "very honorable mention." One receiving 90 or more in all branches for the whole course is graduated "with highest honors;" one receiving "honorable mention" for each year in the course is graduated "with very high honor." "Honorable mention" in any subject is made of any Cadet who

receives 90 or more in the subject for the current year, or for one term, when the subject is completed in that term. If "honorable mention" is made in any branch, on the completion thereof, the recipient is graduated "with honors in————." If "honorable mention" is made in two or more branches, the recipient is graduated "with honors in————and————."

These mentions are made at Commencement and published in the catalogue.

The names of the three students who stand highest in the Military Department are reported to the Adjutant-General of the State and the Secretary of War, and are published in the Army Register of the year following.

THE SHELDON PRIZE SPEAKING Three prizes of $15, $10 and $5, respectively, are given to the three of the eight competitors from the Sophomore and Freshman classes who show the greatest merit in declamation or debate, in a contest held during Commencement week. These competitors are chosen at a preliminary contest held early in the spring term, *in which all members of both classes are required to participate*, as a portion of the course in rhetoricals. Prize winners in previous contests are debarred from competing.

THE AUSTIN TROPHY Mr. Fred T. Austin, M. S. (1888), has established an annual trophy, consisting of three medals, of gold, silver, and bronze, respectively, given to the three Cadets making the highest score at target practice, the winners holding them for one year, provided they remain members of the University.

THE FACULTY GOLD MEDAL This medal is bestowed upon the member of the Senior class who has the highest academic standing from entrance to the close of the winter term of the Senior year.

THE THOMAS MEDAL Mr. Geo. D. Thomas, M. A. (1876), gives annually a gold medal to the Cadet who has the highest general average for the year ending with the close of the winter term: this competition is open to the three Senior classes.

THE SHUTTLEWORTH SWORD Captain E. A. Shuttleworth, U. S. A., M. S. (1891), gives annually, a regulation foot-officer's sword to the member of the Junior class having the highest military standing from entrance to the close of the winter term of the Junior year.

THE JUCKETT MEDAL The Hon. Elmer R. Juckett, M. S. (1889), gives annually a gold medal to the member of the base ball team, either regular or substitute, who has the highest academic standing for the year.

THE SOPHOMORE PRIZES A silver medal is given by the President to each of the three members of the Sophomore class, whose general average, military and academic standing, respectively, are the highest.

THE FRESHMAN PRIZES A silver medal is given by the President to each of the three members of the Freshman class, whose general average, military and academic standing, respectively, are the highest.

STANDING, ETC. Academic standing depends upon recitations; military standing upon marks of merit and demerit, together with proficiency in military duties; the general average is determined by combining the academic and military standings, the former counting two and the latter one. Immoralities, technical and minor offences, are marked with demerits, and are punishable in other ways. Whenever purely academic duties require variation in special matters, the analogies of military usage are maintained so far as practicable.

UNIFORM The dress uniform consists of a dark blue blouse, with standing collar, dark blue trousers with red stripe, black cravat, white linen standing collar, U. S. regulation forage cap, boots or high shoes of black leather. A dark blue overcoat of University pattern may be worn with this uniform under certain restrictions. The fatigue uniform for daily wear, including overcoat, is furnished by the University, of Army pattern and material; the cap and campaign hat to go

with this are sold at cost price (about $1.75) to each cadet. An inexpensive uniform of Khaki is required for warm weather.

The dress uniform is made of a special standard cloth, by the University contractor, at a cost of $25.50, including a cap and one pair of white gloves. Khaki uniforms are also made of a special standard cloth, at a cost of $8.50.

UNIFORM BOND

A bond in the sum of $25 is required of every cadet drawing the fatigue uniform, with some responsible person as security, to ensure its return when called for; all alterations and repairs must be made at the expense of the wearer and all reasonable wear will be allowed without charge.

ABSENCE

The number of leaves involving absence over Sunday without affecting the record of a cadet is limited to two per term; any further absence will be counted as unexcused, and will affect the record for deportment and military standing.

Generally speaking, students are expected to remain in attendance during the whole of a term, unless granted special leave of absence. Parents and guardians are requested to restrict their applications for leave for their sons or wards to cases of actual necessity. There is no Thanksgiving recess.

Those who are absent for any cause for 20% or more of the assigned recitations in any subject, are required to pass an extra examination, having a weight in the term mark equal to the per cent. of absences. If 15% or more of absence occurs within four consecutive weeks, the recitations lost are required to be made up by examination within a week of return. If a Cadet leaves during a term for any cause except for continued sickness, no reduction is made in the term bill; in case of sickness, the loss is shared equally by the Cadet and the University.

ATHLETICS

The Athletic Association is governed by a committee consisting of members of the Faculty, the Alumni and the Cadets, who make such regulations and arrangements regarding athletic matters as may seem proper. The registered colors are maroon and old gold.

the field day in Commencement week.

CONDITIONS A student deficient in work up to the end of the winter term of any year, is not ranked with the next class until such work is made up. No cadet is eligible for a commencement honor who has not made up all deficiencies before the first Saturday of the spring term of his Senior year. The operation of this rule may be suspended by vote of the Faculty in those rare cases which warrant such action.

LOCATION Northfield being located on the main line of the Central Vermont Railway, is easy of access from all directions. The Barracks are in direct telegraphic and telephonic connection with the offices and exchanges in Vermont and elsewhere. There is probably no State that can boast of a more healthful climate than Vermont. Northfield is in the central part of the State, ten miles from the Capital, Montpelier. A popular resort in summer, it loses none of its healthfulness in winter. The water is pure and clear, and the University and village are well supplied from mountain springs.

REDUCED FARES The Central Vermont and Rutland Railroads carry students for two cents per mile, on certificates, to be obtained through the President. To secure these, application should be made not later than Septem-

R. H. P. Ford, '92, *St. Albans, Vt.*

SECRETARY:

W. A. Shaw, '88, *Northfield.*

TREASURER:

Philo R. Hoefler, '95, *Northfield.*

ATHLETIC DIRECTORS:

Fred B. Thomas, '95, *Montpelier, Vt.*
Willis E. Terrill, '89, *Montpelier Vt.*
Heber C. Cady, '91, *Northfield, Vt.*

Members of the Association not present may vote by written ballot at the annual election of Trustees. It is therefore important that each member keep the Secretary informed of his full address, and notify him promptly of any change.

BOSTON ALUMNI ASSOCIATION.

OFFICERS FOR 1902.

PRESIDENT:

N. L. SHELDON, '84.

VICE PRESIDENTS:

DR. CHARLES F. KINGSBURY, '51.
WILLIAM R. CUTTER, '68.
WRIGHT S. PRIOR, '89.

SECRETARY:

E. WESSON CLARK, '92,
47, 48 Niles Building, School Street, Boston.

TREASURER:

J. ALBERT HOLMES, '94.

NEW YORK ALUMNI ASSOCIATION.

OFFICERS FOR 1902.

PRESIDENT:

GRENVILLE M. DODGE, '53.

SECRETARY AND TREASURER

COMMENCEMENT, 1901.

Preacher of the Baccalaureate Sermon:
THE PRESIDENT.

DEGREES CONFERRED.

GRADUATION—*Bachelor of Science*:
IN CIVIL ENGINEERING—FRED THOMSON BASS,
DEAN ORRIS CARR,
HARRY GUY CLARK,
IRVING CLENDENEN ELLIS,
CARL DANFORTH HAZEN,
LEONARD MELVIN NEWTON,
CHARLES EDWARD WHEATLEY.
IN CHEMISTRY—WILLIAM EVERETT ROBERTSON.
IN COURSE.—*Master of Arts*, THE REV. GEO. HAROLD ELLIS.
HONORARY.—*Doctor of Laws*, EX-GOVERNOR EDWARD C. SMITH.

HONOR LIST.

Valedictorian and Senior Gold Medalist,
HARRY GUY CLARK.

Salutatorian,
DEAN ORRIS CARR.

Commencement Speakers,
FRED THOMSON BASS,
WILLIAM EVERETT ROBERTSON,
CHARLES EDWARD WHEATLEY.

rted to the War Department and to the Adjutant General of the State as Highest in Military Standing.

CHARLES EDWARD WHEATLEY,
WILLIAM EVERETT ROBERTSON,
LOUIS FRANKLIN CHAMBERLAIN.

Winners of the Austin Trophy,

Gold, ELROY ALBERT CHASE,
Silver, HENRY ALBERT CHASE,
Bronze, RICHARD FLEMING BARKER.

Winner of the Thomas Medal,

DEAN ORRIS CARR.

Winner of the Shuttleworth Sword,

GUY HENRY WATSON.

Winner of the Juckett Medal,

LAURENCE BERNARD STEBBINS.

Winners of the President's Medals,

SOPHOMORES.

General Average,	SETH WILLIAMS,
Military Standing,	SETH WILLIAMS,
Academic Standing,	SETH WILLIAMS.

FRESHMEN.

General Average,	GEORGE CHRISTOPHER RANDALL,
Military Standing,	GEORGE CHRISTOPHER RANDALL,

FRANK HENRY BURR.

SOPHOMORES.

JOHN HAROLD FOSTER,
SAMUEL LESLIE FULLER,
SETH WILLIAMS.

FRESHMEN.

BERTRAND DORR BARKER,
HOMER EYTON CHASE RAINEY,
GEORGE CRISTOPHER RANDALL.

having an Average of 90 or more for the year in any Subject or nch.

SENIORS.

THOMSON BASS, Meteorology.

ORRIS CARR, Astronomy, International Law, Metallurgy, eteorology, Mathematics.

GUY CLARK, Astronomy, Political Economy, Meteor- International Law.

Constitutional Law, Metallurgy

SOPHOMORE.

WILLIAM MARSH ANDERSON, Latin, Literature and Greek.
KEMP RUSSELL BLANCHARD FLINT, Literature.
JOHN HAROLD FOSTER, French, Literature.
SETH WILLIAMS, French.

FRESHMEN.

BERTRAND DORR BARKER, German.
GEORGE HALIDAY CHAPIN, French.
GEORGE ELDRIDGE DUNHAM, Mathematics, French.
WILLIAM SELDEN HUTCHINSON, French.
HOMER EYTON CHASE RAINEY, Mathematics, French, Chemi
Rhetoric.
GEORGE CHRISTOPHER RANDALL, Mathematics, French, Rhet
GUY GARFIELD RUSSELL, Mathematics.
NATHAN LEE THOMAS, Rhetoric.
WILLIAM OLIVER TUCK, Jr., French.

COMPETITORS IN P

William Marsh An

Harry Knight Brig

Kemp Russell Blan

John Harold Foste

Marshall Morrill S

Vincent John Brenn

Holton Reed Dilli

George Eldridge Di

George Christopher

William Oliver Tuc

Captain Charles Sargent Carleton, V. N. G., C. E.,
Commandant.

Cadet Major Guy Henry Watson,

Cadet 1st Lieut. Harry Mansur Hobson, Quartermas

Cadet 1st Lieut. Frank Henry Burr, Adjutant,

Cadet Sergt.-Major Timothy Holland.

COMPANY A.

Cadet Captain Robert Truman Phinney,

Cadet 1st Lieut. John Theodore Smith,

Cadet 2nd Lieut. Seth Williams,

Cadet 1st. Sergt. John Harold Foster.

COMPANY B.

Cadet Captain Laurence Bernard Stebbins,

Cadet 1st Lieut. Willard Lyman Fuller,

Cadet 2nd Lieut. Frank Strong,

Cadet 1st Sergt. Samuel Leslie Fuller.

COMPETITORS IN PRIZE SPEAKING.

William Marsh Anderson,	'03
Harry Knight Briggs,	
Kemp Russell Blanchard Flint,	
John Harold Foster,	
Marshall Morrill Stocker,	
Vincent John Brennan,	'04
Holton Reed Dillingham,	
George Eldridge Dunham,	
George Christopher Randall,	
William Oliver Tuck, Jr.,	

BATTALION ORGANIZATION.

CAPTAIN CHARLES SARGENT CARLETON, V. N. G., C. E.,
Commandant.

CADET MAJOR GUY HENRY WATSON,

CADET 1ST LIEUT. HARRY MANSUR HOBSON, Quartermaster,

CADET 1ST LIEUT. FRANK HENRY BURR, Adjutant,

CADET SERGT.-MAJOR TIMOTHY HOLLAND.

COMPANY A.

CADET CAPTAIN ROBERT TRUMAN PHINNEY,

CADET 1ST LIEUT. JOHN THEODORE SMITH,

CADET 2ND LIEUT. SETH WILLIAMS,

CADET 1ST. SERGT. JOHN HAROLD FOSTER.

COMPANY B.

CADET CAPTAIN LAURENCE BERNARD STEBBINS,

CADET 1ST LIEUT. WILLARD LYMAN FULLER,

CADET 2ND LIEUT. FRANK STRONG,

CADET 1ST SERGT. SAMUEL LESLIE FULLER.

SENIOR CLASS.

Name.	*Course.*	*Home Address.*
Leon Frank Booth,	S. & L	*Morrisville*
Frank Henry Burr,	C. E	*Bellows Falls*
Henry Albert Chase,*	Ch	*Bradford Center*
Willard Lyman Fuller,	C. E	*Essex Junction*
Harry Mansur Hobson,	C. E	*Island Pond*
Timothy Holland,*	C. E	*Northfield*
Robert Truman Phinney,	C. E	*Montpelier*
John Theodore Smith,	C. E	*Russell, N. Y.*
Laurence Bernard Stebbins,	C. E	*Northfield*
Frank Strong,	C. E	*Philadelphia*
Guy Henry Watson,	C. E	*Lyndonville*

JUNIOR CLASS.

Name.	*Course.*	*Home Address.*
Arthur Garfield Baker,	C. E	*Northfield*
Ernest Stearns Ball,	C. E	*Gardner, Mass.*
Richard Fleming Barker,	C. E	*Bellows Falls*
John Henry Byrd,	C. E	*Randolph*
Elroy Albert Chase,	C. E	*Northfield*
Gilbert Clarence Eastman	C. E	*Milford, Mass.*
Robert Burns Farquharson,	C. E	*So. Ryegate*
Kemp Russell Blanchard Flint,*	S. & L	*Montpelier*
John Harold Foster,	Ch	*Waltham, Mass.*
Samuel Leslie Fuller,	C. E	*Bennington*
Emilio Guerra y Giro,	C. E	*Santiago de Cuba*
Fritz Louis Metzger,	C. E	*Rutland*
Stanley John Parsons,	C. E	*Elmore*
John Tinney Powers,	C. E	*Bennington*
Marshall Morrill Stocker,	C. E	*Danville*
William Clarence Thompson,	Ch	*Northfield*
Allan Rawson Williams,	C. E	*Jericho*
Seth Williams,	C. E	*Foxboro, Mass.*

*Subject to Examination.

SOPHOMORE CLASS.

Name.	*Course.*	*Home Address.*
Bertrand Dorr Barker,	C. E	*Poultney*
Craig Oscar Burt,	C. E	*Stowe*
George Halliday Chapin, *	C. E.	*Melrose Highlands, Mass.*
Holton Reed Dillingham,	C. E	*Northfield*
Charles Franklin Gallup,	C. E	*West Woodstock*
Ralph Leon Gilman,	C. E	*Chelsea*
William Selden Hutchinson,	C. E	*Enosburg Falls*
Louis Henri Janvrin,	C. E.	*Saratoga Springs, N. Y.*
Joseph Edmund McGreen,	Ch	*Bellows Falls*
Royal Lee Mead,	C. E	*Livingston, Montana*
John Kent Morris,	C. E	*Waldrop, Virginia*
Stanley Doyton Nichols.	C. E	*Roxbury*
Harry Arthur Peabody,	C. E	*Chester*
Earl Dexter Perry,	C. E	*Worcester, Mass.*
Homer Eyton Chase Rainey,	C. E	*Randolph*
George Christopher Randall,	C. E	*Woodsville, N. H.*
Guy Garfield Russell,	Ch	*Hartland*
Nathan Lee Thomas,	C. E	*Stowe*
William Elbridge Charles Washburn,	C. E	*Northfield*

*On leave.

FRESHMAN CLASS.

Name.	*Course.*	*Home Address,*
Ludlow Osmond Barker, Jr.	C. E	*Montpelier*
Ralph Alburton Booth,	Arts	*Morrisville*
Vincent John Brennan,	Ch	*Quechee*
Henry Fitzgerald Causebrook,	C. E	*Burlington*
Joseph Cleophas Coulombe,	C. E	*Island Pond*
William John Darling,	C. E	*So. Ryegate*
Harry Raymond Deal,	C. E	*Piermont, N. H.*
Joseph Harold Denny,	Ch	*Northfield*
Homer Ferrin,	C. E	*Montpelier*
Edward Irvin Hibbard,	C. E	*Chelsea*
John Joseph Howard,	Ch	*Bellows Falls*
Haroll Moore Howe,	C. E	*Northfield*
Ernest Allen Lawrence,	C. E	*Montpelier*
Arthur Russell Lunt,	C. E	*Gorham, N. H.*
William Rensselaer McFeeters,	S. & L	*Enosburg Falls*
Edward Moore,	S & L	*Island Pond*
William Henry Morrill,	C. E	*Northfield*
Park Valentine Perkins,	C E	*Bennington*
Joy Clyde Ross,	C. E	*Imlay City, Mich.*
Percivale Creighton Sinclair,	C. E	*Johnson*
Harry Orlando Smith,	C. E	*Stowe*
Fred Elton Steele, Jr.,	S. & L	*Gaysville*
Daniel Putnam Thompson,	C. E	*Bellows Falls*

SPECIAL STUDENTS.

Not candidates for a Degree.

Robert Lee Wilkins		*Viroqua, Wis.*
Daniel A. Holland		

RECENT GRADUATES.

1890.

Charles Frederick Parker, Civil Engineer, firm Ellis & Parker, *Woonsocket, R. I.*
Charles Edwin Collins, Civil Engineer, firm Collins & Collins, *Philadelphia, Penn.*
Seth Burton Adams, Boiler Inspector.....*Hartford, Conn.*
Dexter Wadleigh Lewis, Clerk.....*Boston, Mass.*
Herman Dressel, Jr., County Examiner, Prin. High School, *Springfield, Vt.*
Homer John Dane, Pharmacist .....*Northfield, Vt.*
Ira Rich Mower, representing Parke, Davis & Co., in.....*Atlanta, Ga.*
John Huntoon Judkins, Physician.....*Northfield, Vt.*

1891.

George Franklin Abbott, Civil Engineer, Boston Elevated R. R....*Boston*
*The Rev. Alfred Frederick Booth .....
Edward Aiken Shuttleworth .....*Capt. 27th Inf., U. S. A.*
William Hibbard Sprague, Merchant. .....*East Brookfield, Vt.*
Harry Gordon Woodruff, Bank Cashier .....*Barre, Vt.*
Ethan Allen Shaw, Professor .....*Norwich University*
Carl Gilman Dole, B. & M. R. R. .....*Lyndonville*
Heber Calvin Cady, Treasurer .....*Northfield Savings Bank*
Burton Wiley Farnham, City Engineer's Office .....*Lowell, Mass.*
Fred Miner Goodhue, Editorial Staff, *The American*.....*Lawrence, Mass.*
Percy Gates Smith, City Engineer's Office.....*Worcester, Mass.*
Clarence Bonnett Riggs, Civil Engineer.....*New Rochelle, N. Y.*

1892.

Ephraim Wesson Clark, Civil Engineer, Boston Elevated Railway, *Boston*
Joseph Spafford Craigue, Civil Engineer, with H. S. Adams.....*Boston*
Charles John Clement Evans, Civil Engineer, with Post & McCord, *New York City*
Charles Warner Pierce, Editor of *The Herald*.....*Northampton, Mass*
Robert Henry Perse Ford, Assistant Chief Engineer of *Central Vermont R. R.*
Edmund Henry Ryan, Civil Engineer & Lawyer.....*Monticello, Utah*
Dewitt Clinton Webb, Civil Engineer with H. S. Adams.....*Boston*
Benjamin Whitney Gleason, Physician.....*Boston*

*Deceased.

1893.

George Leslie Andrews, Pharmacist ..... *Pasadena, Cal.*
Edward Cushman Bennett, Attorney at Law ..... *No. Bennington, Vt.*
Eben Watson Gaynor, Dentist ..... *Boston.*
Frank Albert Gokey, in business at ..... *Everett, Mass.*
Frank Dudley Holbrook, Civil Engineer ..... *Boston*
Wilber Edson Hurlburt, Lawyer ..... *Oshkosh, Wis.*
Frank Alden Manuel, Manufacturer ..... *Richford, Vt.*
Hiram Nathaniel Mattison, Cashier, National Bank ..... *Chelsea, Vt.*
Oren Luther Pease, Pharmacist ..... *Hartford, Conn.*

1894.

Leo Bertram Clogston, Draftsman ..... *Jamaica Plains, Mass.*
Ernest Willard Gibson, Attorney at Law (1st Lt. V. N. G) ... *Brattleboro*
Harvey Levi Hinman, in business at ..... *Coös, N. H.*
Howard Clinton Holden, Civil Engineer, with Massachusetts Highway Commission.
Leroy Chittenden Hulburd, Topographical Engineer ..... *New York City*
James Ernest Ross, Insurance Surveyor, Sanborn Perris Map Co., *New York City*
Raymond Underwood Smith, Attorney at Law ..... *Wells River, Vt.*
*George Eber Storrs .....
Hal Holmes Stearns, Insurance Surveyor, Sanborn Perris Map Co., *New York City*
Harlan Badger Wasson, Civil Engineer, with Massachusetts Highway Commission.

1895.

Edgar Fletcher Carruthers, Inspector Barber Asphalt Paving Co. *New York City*
Charles Horace Davis, Civil Engineer ..... *Clinton, Mass.*
Fred Carnot Davis, Asst. Engineer Metropolitan Water Supply Co. *Clinton, Mass.*
Frank James Donahue, Insurance Surveyor, Sanborn Perris Map Co. *New York City*
Ray Storrs Dowe ..... *Railway Mail Service*
Walter George Huntley, Dentist ..... *Northfield*
Philo Remington Hoefler, Dole-Brill Slate Quarry ..... *Northfield*
Harry Chester Mosely, in business ..... *Northfield*
Bert Henry Prior, Civil Engineer ..... *Worcester, Mass.*
Michael John Ryan, Ass't. Engineer Elevated Railway ..... *Boston*
Fred Barnes Thomas, Lawyer (2nd Lt. V. N. G.) ..... *Montpelier, Vt.*
Samuel Adrian Thomas, Insurance Surveyor, Sanborn Perris Map Co., *New York City*
Dean Clyde Warren, Ass't Engineer, Metropolitan Water Commission *Cambridge, Mass.*

*Deceased

1896.

Arthur Gilbert Andrews, LL. M., Attorney at Law.....*New York City*
James Leland Averill, American Bridge Company.....*New York City*
George Horace Briggs, Ass't Engineer Metropolitan Water Supply Commission .....*Clinton, Mass.*
Charles Sargent Carleton, (Capt. 1st Me. Vols.) Commandant Cadets, *Norwich University*
Herbert Sawyer Clark, Ass't. Street Commissioner..... *Worcester, Mass.*
John Leslie Collins, Civil Engineer, Collins & Collins ...*Philadelphia, Pa.*
Harry Ray Dole, in business.....*Northfield*
Phil Sheridan Howes, Farmer.....*Northfield*
Edward Michael McCarty, Clerk.....*Boston*
Charles Albert Plumley, Law and Insurance (Capt. V. N. G.) *Northfield*
Carroll John Scribner, Engineer Bridge Department.....*with C. V. R. R.*
Leon Anson Skinner, in business.....*So. Royalton*
Herbert Eugene Caswell, Principal of Schools.....*Georgia, Vermont*

1897.

Winfred Ballard Carr .....*1st. Lieut., Artillery Corps, U. S. A.*
Henry Vail Dunham, Chief Chemist, American Caseine Co., *New York City.*
William Arba Ellis, Insurance Surveyor, Sanborn Perris Map Co., *New York City*
*William Clarence Spafford
Donald William Sutherland, Civil Engineer.....*Lennoxville, P. Q.*
Charles Ernest Walker, (1st. Lieut. U. S. Vol. Signal Corps), Chemist Oxford Paper Co.....*Rumford Falls, Me.*

1898.

Edwin Booth, Bank Clerk.....*Morrisville*
Lewis Charles Bump, Civil Engineer.....*Boston*
James Wilber Cook, Western Electric Co.....*New York*
Frank Winslow Denison, Ass't. Engineer.....*Rutland-Canadian R. R.*
Paul Addison Dinsmoor, Lawyer.....*Lawrence, Ka.*
Charles Edward Duggan .....*Northfield*
The Rev. George Harold Ellis, M. A., Post-graduate Course, Clark University.....*Worcester, Mass.*
Leonard Joel Parker. Asst. Engineer, B. & M. R. R.....*Boston, Mass.*
George Everett Talbot, with Stone & Johnston, Contractors ..*Asbury, L. I.*
Arthur Ellsworth Winslow, Assistant Professor.....*Norwich University*

*Deceased (Member 1st Vt. Vols).

1899.

Frank Leroy Aldrich.....*Northfield, Vt.*
Hezekiah Kibbe Brooks, Chemist Caseine Co. of America..*Bellows Falls*
Charles Horace Eaton, Assistant Engineer, Guayaquil & Quinto R. R., *Equador, So. A.*
George Prentice Lovell, Assistant Engineer .....*Boston & Albany R. R.*
John Pool Moseley, Insurance Surveyor, Sanborn Perris Map Co., *New York City*
Fred Aldrich Webster, Physician.....*Ottawa, Canada*

1900.

Sanford Harris Ashley. Asst. Engineer, Chicago, Milwaukee & St. Paul R. R.....*Chicago, Ill.*
Richard George Rich, Insurance .....*South Manchester, Conn.*
Jeffers Foster Richardson, Commission House..... *New York City*
Harold Samuel Richmond, American Bridge Co.....*Berlin, Conn.*
Berton William Sibley.....*2d Lieutenant, U.S. Marine Corps*

1901.

Fred Thomson Bass.....*American Bridge Co.*
Dean Orris Carr, Am. Bridge Co.....*Pittsburg*
Harry Guy Clark.....*Champlain, N. Y.*
Irving Clendenen Ellis, Ellis's Granite Works.....*Northfield, Vt.*
Carl Danforth Hazen .....*Boston & Albany R. R.*
Leonard Melvin Newton.....*Boston & Albany R. R.*
William Everett Robertson, Chemist Chilton Paint Works, *College Point, L. I.*
Charles Edward Wheatley..... *Washington, D. C.*

N. B.—For graduates before 1890 see History of Norwich University compiled by William Arba Ellis, '97.

Partial List of Roads upon which Graduates and Past Cadets of Norwich University have been employed as Consulting, Constructing, Chief, Assistant or Division Engineers:

Albany Northern,
American Central,
Arequipa & Puno (Peru),
Auburn & Syracuse,
Baltimore & Ohio,
Boston & Lowell,
Boston & Providence,
Boston & Worcester,
Burlington and Missouri,
Camden & Atlantic,
Cincinnati Western,
California & Texas,
Cayuga & Susquehanna,
Central Vermont,
Central Military Tract,
Chicago & Alton,
Chicago & Danville,
Chicago & Northwestern,
Cincinnati, Peru & Chicago,
Cleveland & Pittsburg,
Columbus, Piqua & Indiana,
Connecticut & Passumpsic,
Connecticut Valley,
Corpus Christi, San Diego & Rio Grande,
Dallas & Wichita,
Delaware & Western,
Denver & Gulf,
Denver Pacific,
Denver, Texas & Fort Worth,
Des Moines & Northern,
Des Moines & Northwestern,
Drummond Co. (Quebec),
Elkhorn,
Everett & Monte Cristo,
Fitchburg,
Fort Wayne & Chicago,
Fort Worth & Denver City,
Gilman, Clinton & Springfield,
Grand Rapids & Lake Shore,
Hartford & Springfield,
Hoosac Tunnel & Saratoga,
Housatonic,
Houston & Texas Central,
Houston, East and West Texas,
Hudson River,
Huntington & Broad Top,
Illinois & Wisconsin,
Illinois Central,
Indianapolis, Peru & Chicago,
International & Great Northern, (Texas),
Iona & Lansing,
Jeffersonville,
Junction City & Fort Kearney,
Kansas Central,
Kansas City & Southern,
Kansas City, Emporia & Southern,
Kansas City, Memphis & Mobile,
Kansas City Street Railway,
Kansas Pacific,
Lackawanna & Bloomsburg,
Lake Ontario Shore,
Leavenworth, Lawrence & Fort Gibson,
Lee & Hudson,
Mahoney & Susquehanna,
Manchester & Keene,
Mansfield, Coldwater & Lake Michigan,
Marietta & Cincinnati,
Marion & McPherson,
Massachusetts Central,
Memphis & Charleston,
Memphis & La Grange,
Mexican International,

Mexican National,
Mexican Southern,
Milwaukee & Lake Winnebago,
Milwaukee & Mississippi,
Milwaukee & Watertown,
Minneapolis & Duluth,
Mineral Belt,
Minneapolis & Northwestern,
Minneapolis & St. Cloud,
Mississippi & Missouri,
Missouri, Kansas & Texas,
Mobile & Ohio,
Monterey & Mexican Gulf,
Montpelier & Wells River,
Mount Washington,
Nashville & Decatur,
New Jersey Central,
New Orleans & Pacific,
Oregon Short Line,
Penn Yan, Keuka Park & Branchport,
Peoria Branch, Rock Island,
Peoria & Burlington,
Peoria & Oquawka,
Pittsburgh, Fort Wayne & Chicago,
Pittsfield & North Adams,
Plattsburgh & Montreal,
Pueblo & Arkansas Valley,
Pueblo & Salt Lake,
Racine & Mississippi,
Rock River Valley Union,
Rutland,
Rutland & Burlington,
St. Croix & Lake Superior,
St. Louis, Kansas City & Northern,
St. Paul & Chicago,
St. Antonio & Mexican Gulf,
San Francisco, (Missouri),
Saratoga & Whitehall,
Sedalia, Warsaw & Southern,
Shepaug Valley,
Southern Minnesota,
Sugar River,
Sullivan,
Sunbury & Erie,
Suncook Valley,
Texas Pacific,
Toledo, Oscaloosa & Western,
Transia, (Mexico),
Union Pacific,
Utica & Oswego,
Utica & Schenectady,
Vermont & Canada,
Vermont Central,
Vicksburg & Meridian,
Wabash,
Waterbury & Stowe,
West End, (Boston),
Whitehall & Plattsburg,
Wilmington & Reading,

and some 50,000 miles of preliminary surveys in addition.

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Captain Charles Sargent Carleton, V. N. G., C. E.
Commandant.

Cadet Major Guy Henry Watson,

Cadet 1st Lieut. Harry Mansur Hobson, Quartermas

Cadet 1st Lieut. Frank Henry Burr, Adjutant,

Cadet Sergt.-Major Timothy Holland.

COMPANY A.

Cadet Captain Robert Truman Phinney,

Cadet 1st Lieut. John Theodore Smith,

Cadet 2nd Lieut. Seth Williams,

Cadet 1st. Sergt. John Harold Foster.

COMPANY B.

Cadet Captain Laurence Bernard Stebbins,

Cadet 1st Lieut. Willard Lyman Fuller,

Cadet 2nd Lieut. Frank Strong,

Cadet 1st Sergt. Samuel Leslie Fuller

SOPHOMORE CLASS.

Name.	*Course.*	*Home Address.*
Bertrand Dorr Barker,	C. E	*Poultney*
Craig Oscar Burt,	C. E	*Stowe*
George Halliday Chapin, *	C. E	*Melrose Highlands, Mass.*
Holton Reed Dillingham,	C. E	*Northfield*
Charles Franklin Gallup,	C. E	*West Woodstock*
Ralph Leon Gilman,	C. E	*Chelsea*
William Selden Hutchinson,	C. E	*Enosburg Falls*
Louis Henri Janvrin,	C. E	*Saratoga Springs, N. Y.*
Joseph Edmund McGreen,	Ch	*Bellows Falls*
Royal Lee Mead,	C. E	*Livingston, Montana*
John Kent Morris,	C. E	*Waldrop, Virginia*
Stanley Doyton Nichols.	C. E	*Roxbury*
Harry Arthur Peabody,	C. E	*Chester*
Earl Dexter Perry,	C. E	*Worcester, Mass.*
Homer Eyton Chase Rainey,	C. E	*Randolph*
George Christopher Randall,	C. E	*Woodsville, N. H.*
Guy Garfield Russell,	Ch	*Hartland*
Nathan Lee Thomas,	C. E	*Stowe*
William Elbridge Charles Washburn,	C. E	*Northfield*

*On leave.

Ralph Alburton Booth,	Ar
Vincent John Brennan,	Ch
Henry Fitzgerald Causebrook,	C.
Joseph Cleophas Coulombe,	C.
William John Darling,	C.
Harry Raymond Deal,	C.
Joseph Harold Denny,	Ch
Homer Ferrin,	C.
Edward Irvin Hibbard,	C.
John Joseph Howard,	Ch
Haroll Moore Howe,	C.
Ernest Allen Lawrence,	C.
Arthur Russell Lunt,	C.
William Renssellaer McFeeters,	S.
Edward Moore,	S
William Henry Morrill,	C.
Park Valentine Perkins,	C
Joy Clyde Ross,	C.
Percivale Creighton Sinclair,	C.
Harry Orlando Smith,	C.
Fred Elton Steele, Jr.,	S.
Daniel Putnam Thompson,	C.

SPECIAL STU

Not candidates to

THE BUILDINGS FROM THE SOUTH.

CATALOGUE

OF

NORWICH UNIVERSITY,

THE MILITARY COLLEGE

OF

THE STATE OF VERMONT.

1903.

EIGHTY-THIRD ACADEMIC YEAR.

— — —

ST. ALBANS, VT.:
Messenger Company Print,
1902.

P EXCH 7 MAY 1906
RWICH UNIV

September 1, Tuesday—Classes meet in Dodge Hall, at 10

FALL TERM, 1903.

September 22, Tuesday—Entrance Examinations in Dod
10:00 a. m.; Term begins at Retreat.
December 19-22—Term Examinations.
December 22, Tuesday—Term ends at noon.

Partial List of Roads upon which Graduates and Past Cadets of Norwich University have been employed as Consulting, Constructing, Chief, Assistant or Division Engineers:

Albany Northern,
American Central,
Arequipa & Puno (Peru),
Auburn & Syracuse,
Baltimore & Ohio,
Boston & Lowell,
Boston & Providence,
Boston & Worcester,
Burlington and Missouri,
Camden & Atlantic,
Cincinnati Western,
California & Texas,
Cayuga & Susquehanna,
Central Vermont,
Central Military Tract,
Chicago & Alton,
Chicago & Danville,
Chicago & Northwestern,
Cincinnati, Peru & Chicago,
Cleveland & Pittsburg,
Columbus, Piqua & Indiana,
Connecticut & Passumpsic,
Connecticut Valley,
Corpus Christi, San Diego & Rio Grande,
Dallas & Wichita,
Delaware & Western,
Denver & Gulf,
Denver Pacific,
Denver, Texas & Fort Worth,
Des Moines & Northern,
Des Moines & Northwestern,
Drummond Co. (Quebec),
Elkhorn,
Everett & Monte Cristo,
Fitchburg,
Fort Wayne & Chicago,
Fort Worth & Denver City,
Gilman, Clinton & Springfield,
Grand Rapids & Lake Shore,
Hartford & Springfield,
Hoosac Tunnel & Saratoga,
Housatonic,
Houston & Texas Central,
Houston, East and West Texas,
Hudson River,
Huntington & Broad Top,
Illinois & Wisconsin,
Illinois Central,
Indianapolis, Peru & Chicago,
International & Great Northern, (Texas),
Iona & Lansing,
Jeffersonville,
Junction City & Fort Kearney,
Kansas Central,
Kansas City & Southern,
Kansas City, Emporia & Southern,
Kansas City, Memphis & Mobile,
Kansas City Street Railway,
Kansas Pacific,
Lackawanna & Bloomsburg,
Lake Ontario Shore,
Leavenworth, Lawrence & Fort Gibson,
Lee & Hudson,
Mahoney & Susquehanna,
Manchester & Keene,
Mansfield, Coldwater & Lake Michigan,
Marietta & Cincinnati,
Marion & McPherson,
Massachusetts Central,
Memphis & Charleston,
Memphis & La Grange,
Mexican International,

WALDO P. CLEMENT, M. S.....
COL. FRED E. SMITH .....
HON. WILLIAM B. MAYO, M. D.....
HON. FRANK PLUMLEY, M. A.....
MR. JOSEPH K. EGERTON.....
JOHN J. DEWEY, M. S.....
MAJOR FRANK L. HOWE, V. N. G.....
THE REV. WILLIAM S. HAZEN, D. D.....
MAJ. GEN. OLIVER O. HOWARD, U. S. A.
THE REV. ISAAC P. BOOTH, D. D.....
THE REV. CHARLES W. EMERSON, LL. D.
J. Q. A. MCCOLLESTER, M. D., LL. D....
CAPT. HENRY V. PARTRIDGE, M. A.....
THE REV. HOWARD F. HILL, Ph. D., D. I
COL. ALBERT CLARKE .....
CAPT. JOHN L. MOSELEY.....
WILLIAM A. SHAW, M. S.....
THE REV. HOMER WHITE, D. D.....
COL. KITTREDGE HASKINS, M. C.....
MAJ. GEN. WILLIAM A. BANCROFT, B. A..
PROF. CHARLES DOLE, M. A, (Vice-Presid

ALUMNI TRU

WRIGHT S. PRIOR, C. E., term expires 1
ERNEST W. GIBSON, M. A., (" " 1

MILITARY STAFF.

HENRY W. HOVEY, Captain, 24th Inf., U. S. A.,
Commandant.

WILLIAM B. MAYO, M. D.,
Surgeon.

THE REV. WILLIAM S. HAZEN, D. D.,
Chaplain.

JAMES EVANS,
Armorer.

BOARD OF VISITORS

appointed by the Governor, in pursuance of an act of the Legislature, approved November 29th, 1898, for the Biennial Term ending December 1st, 1904:

HON. JOSEPH D. DENISON.....*Randolph.*

NELSON D. PHELPS.....*Barre.*

JOHN H. WALBRIDGE.....*Concord*

ALONZO B. VALENTINE.....*Bennington.*

WALTER E. RANGER.....State Superintendent of Education, *ex-officio.*

THE REV. ALLAN D. BROWN, LL. D.,
COMMANDER, U. S. NAVY, (RETIRED),
President.

JOHN B. JOHNSON, M. A., C. E.,
Professor Emeritus of Mathematics and Civil Engineering,
(With the rank of Lieutenant Colonel.)

CHARLES C. BRILL, M. A.,
Professor of Chemistry, Dean of the Faculty.
(With the rank of Major.)

HERBERT R. ROBERTS, M. A.,
Professor of Latin, Greek and English,
Secretary of the Faculty.
(With the rank of Major.)

HENRY W. HOVEY, Captain 24th Infantry, U. S. Army,
Professor of Military Science and Tactics.

ETHAN ALLEN SHAW, C. E., M. A.,
Professor of Physics and Drawing.
(With the rank of First Lieutenant.)

CHARLES S. CARLETON, C. E.,
Professor of Field Engineering.
(With the rank of First Lieutenant.)

ARTHUR E. WINSLOW, C. E.,
Professor of Mathematics and Civil Engineering.
(With the rank of First Lieutenant.)

CARL V. WOODBURY, B. A.,
Professor of History and Modern Language.
(With the rank of First Lieutenant.)

HENRY A. CHASE, B. S., *Instructor in Chemistry.*

LECTURERS.

THE HON. FRANK PLUMLEY, M. A.,

ERNEST W. GIBSON, ESQ., M. A.,

Constitutional and Commercial Law and Social Science.

MAJOR-GENERAL OLIVER O. HOWARD, U. S. Army,

Military History.

CAPTAIN CHARLES H. STOCKTON, U. S. Navy,

(Late President Naval War College, Newport, Rhode Island.)

International Law.

WILLIAM A. SHAW, M. S.,

Observer U. S. Weather Bureau; Meteorology.

WILLIAM A. ELLIS, M. A., *Librarian and Curator of the Museum.*

WILLIAM S. CLARKE, *Assistant to Librarian.*

EDGAR SWANN, *Janitor.*

NORWICH UNIVERSITY

WAS founded at Norwich Vermont, in 1819, by CAPTAIN ALDEN PARTRIDGE, and was known as the American Literary, Scientific and Military Academy, being the pioneer *Engineering School* of the country, antedating all others by at least eight years. It retained the name until November 6, 1834, when a charter of incorporation was granted it by the State of Vermont, under the name of NORWICH UNIVERSITY, which thus became the *first* SCIENTIFIC AND CLASSICAL, as well as the first MILITARY, Collegiate Institution in the United States. Its success was immediate, and every State in the Union had, in its early days, representatives among its students.

In March, 1866, the buildings at Norwich were destroyed by fire, and the University was removed to Northfield, Vt., where the citizens had offered fine grounds and commodious barracks.

It is a characteristic and peculiar feature of the institution that, in addition to the usual collegiate courses, the charter requires "a course of military instruction, both theoretical and practical." For this reason, the discipline is, of necessity, military in form and principle, being modeled after that of the National Military Academy at West Point, of which Captain Partridge was, at one time, the Superintendent; and from its foundation to the present time it has held the distinction of being the foremost military institution in the land, West Point and Annapolis alone excepted. Her sons have done yeoman service in both army and navy; from her founder, Captain Partridge, and her second President, Truman B. Ransom, who resigned his chair to lead the 9th New England in the Mexican War (falling at the head of his regiment at the assault of Chapultepec, in September, 1847), through a long line of distinguished men in the Civil and Spanish Wars, until to-day, when her graduates are still to be found in both the services.

To the discipline and instruction received at this institution, is due the reputation acquired by many of the New England (and other) regiments; and the "Green Mountain Boys" (whose record in the Civil War is second to none) owe their success and renown, largely to the training received within her halls. The Honor Roll of the Civil War contains the names of many generals (among them those of G. P. Buell, Burton, G. M. Dodge, Lander, Milroy, T. E. G. Ransom, Truman Seymour, Seth Williams, P. V. Hagner, late Chief of Ordnance U. S. A.), a large number of colonels and other field officers, also of line and non-commissioned officers, together with Rear Admirals Paulding and Carpenter, Captains Ward and Colvocoresses, Lieut.-Commander Dewey, and many others of the Navy.

More than fifty of her Past Cadets served in the late war with Spain, chief among them being ADMIRAL DEWEY, the Victor of Manila, Brig.-Gen'l Williston, Col. Edmund Rice (of whom General Miles has said that "he had the best regiment in the Army of the Potomac"), Captain Converse and Commander Colvocoresses of the Navy, and others of less rank in both branches of the service. A number of her Past Cadets are serving in both the Army and Navy on the active list; with the increased demand for officers of the Army which West Point is unable to supply, there is no reason why young men inclined to Army life should not prepare themselves for it, with as much certainty of success as in any other profession; and no better preparation can be found for obtaining a commission either by direct appointment from the several states, or through

COMMISSIONS IN THE ARMY

It has always been, and still is, the highest endeavor of the Trustees and the Faculty to maintain, in every respect, the high military character of the University, bearing in mind the fact that the aim of any scholastic institution should be not merely to graduate scholars, but to make men. To this end special attention is paid, not only to drill in the manual of arms, the execution of tactical movements and the necessary routine of a post, but also to the development of honor, truth, candor, self-respect and loyalty. While the discipline is strict, it is not severe, the government being largely by privileges rather than by restrictions ; the student being taught to do the right thing at the right time and in the right way. That discipline of this sort fits men not merely for military, but also for civil, life is shown by the success of Past Cadets in the clerical, legal, medical, engineering, journalistic and other professions. Some of the best of our railway engineering* (such as that of the Union Pacific, Northern Pacific, Denver & Rio Grande, Mexican Central, Northwestern, Great Northern, and many of the roads in Central and South America) has been done in whole or in large part, by men who have been students at this institution, and many of her graduates are to be found to-day in places of trust and responsibility.

The State of Vermont has acknowledged the University by recognizing her as The Military College of the State, by the appointment of a Board of Visitors and by making her Corps of Cadets a part of the State National Guard, under the title of "The Norwich Cadets," in which each member is regularly enlisted The State thus places a high valuation upon the institution as a training school for the citizen soldier, and attests its gratitude for services already rendered. For like reasons, the United States Government has detailed an officer from the active list of the Army for duty as Professor of Military Science and Tactics, and sends an inspecting officer yearly, to note the condition of the discipline and drill.

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*See pages 60-61.

That these inspectors find a satisfactory state of affairs is shown by their reports.

> The Inspector for 1893 said: "Although the numbers are small, it is due the institution to say that in its military system, discipline and instruction, *it stands at the head of all the colleges in this inspection.*"

> The Inspector for 1896 said: "The appearance, bearing, steadiness and behavior were excellent. * * * I was favorably impressed with the condition of the military department."

> The Inspector for 1897 said: "An inspector finds himself out of place here, except in so far as his commendation may be of some use. Parents who are in search of some institution where self-control and self-discipline (all important factors in future success) are made prominent features, and receive special attention in the education, might do well to visit Norwich University.
>
> "The system of discipline inaugurated by Captain Partridge in 1819 is still in force here, and is only modified to suit the higher condition of cultivation of the student. The discipline is still as strong, and the cadet is under a strict military regime every day and every hour that he spends at the University. He is marched to his meals, to prayers, to classroom and to church. He is taught to be neat in his person, regular in habits and methodical in work."

> The inspector for 1901 said: "The military appearance of the cadets was very good and *the inspection was satisfactory throughout.*"

The State Inspector (an officer of the Army detailed for service with the Vermont National Guard), also makes a yearly visit and reports to the Governor. In 1896 this officer said:

> "These students are able to execute every movement in infantry drill regulations and, as far as possible without horses, artillery movements, with a correctness and precision not to be expected of any other body of troops in the State."

In 1899, this officer said:

> "The entire drill was excellent. Discipline, apparently excellent. The camp was perfectly clean and well kept; the uniform is neat and appropriate, and the young men were enthusiastic in their military duties."

By her work for more than three-quarters of a century, Norwich University merits the confidence and generous support of the general public.

REPORT OF THE BOARD OF VISITORS

For the Biennial Term ending December 1, 1902.

THE Board of Visitors to Norwich University appointed for the biennial term in accordance with the provisions of Act No. 33 of the laws of 1898, herewith submit to Your Excellency the following report:

The Board have visited and made inspection of the University and all things pertaining to it at various times during the biennial term and the results of their observations are hereinafter reported under the following separate headings:

ENROLLMENT.

For the year ending June, 1900, there was a total enrollment of seventy-nine cadets, of which seventy were on the rolls at the end of the year.

For the year ending 1901 the total enrollment was seventy-eight of which seventy-two were on the rolls at the end of the year.

At the time of Commencement, June, 1902, there were on the rolls the same number as the year before, namely seventy-two.

There have already entered in the Freshman class for the coming year, twenty-four.

The cadet corps is divided into two companies, commanded by a cadet Major and officered by cadets promoted upon the basis of Academic and Military standing.

MILITARY INSTRUCTION, ARMAMENT AND EQUIPMENT.

The instruction in military science and tactics is thorough and systematic.

The Freshmen when they enter are often awkward and show imperfect physical development. They are first put through "setting up" drill, after which they are instructed in the manual

of arms, and company formations and evolutions, which is kept up during the full course of four years.

The Board have watched with much interest and pleasure the development of the undisciplined freshman, often with poor physique, into a robust appearing man, standing erect with easy poise and military bearing.

This system of physical culture, together with regular habits, makes the cadets uniformly healthful, and lays a sure foundation for future health and strength without which mental requirements are at a marked disadvantage.

Besides, the knowledge of military science is a splendid achievement for the individual, and a source of strength to the State; for the senior classes are competent to officer a regiment and instruct it in all matters pertaining to military organization.

The corps is also drilled in artillery practice, but from necessity are obliged to use the heavy and obsolete 12lb. brass pieces. The muskets used are the Springfield rifles. While these guns answer the purpose of drill, yet to obtain the best results in military instruction and target practice, these should be replaced by the modern Krag, and the field pieces now in use should be replaced by two 3-inch breech loading rifled guns for artillery practice.

A request for the Krag and for the 3-inch breech loading artillery pieces has been refused by the War department on the ground that they were not making further distribution of arms to colleges.

We hope, however, and have reason to expect that during the coming year this improvement in the ordnance of the University will be accomplished.

For ten days each year, just prior to Commencement, the corps go into camp on the parade ground and are there instructed in all the various duties of camp life, the same as the State Militia are at the annual muster.

For the past few years, while the office of Commandant and Military Instructor has been very creditably filled, yet the Uni-

versity has needed a Regular Army officer to give it the military standing to which it is entitled.

We are very glad to be able to report that the War Department has now detailed Captain H. W. Hovey, of the Regular Army as Commandant and Military Instructor to the University, and that he has already entered upon his duties as such.

INSTRUCTION AND DISCIPLINE.

In the Academic department, there are four separate courses of instruction, namely: Civil Engineering, Arts, Chemistry, Science and Literature.

By far the greater number of students pursue the course in Civil Engineering, it being a fact that Mathematics and Military Science have common attractions for students, and we realize the fact that the combination of these two makes a very complete and satisfactory education.

Yet we are of the opinion that so far as possible students should be secured to enter some of the other courses, especially the course in Science and Literature ; for with a comparatively limited field from which to obtain students it seems probable that the enrollment could be more easily increased were these two courses to offer equal inducements to prospective freshmen.

We find that the Academic instruction is thorough and that in addition to the regular course, a summer school in field engineering is held for special practical work in that department.

We are pleased, also, to note that, beginning with the present school year, a professor of field engineering will give special practical work in that branch as a part of the regular work throughout the year, thereby much increasing the efficiency of the Mathematical and Engineering departments.

The discipline of the University is military. There has in the past been more or less hazing of freshmen during the first few weeks of the fall term, thus aping the custom until recently in vogue at West Point.

This shameful and brutalizing practice has been eradicated during the past year, the several classes voluntarily pledging

themselves to discontinue and discountenance all hazing in the future.

We are especially glad to report this change for the better in the University, for all such practices are a discredit alike to the college and to the students who practice it, and when indulged in by a State institution, it becomes a discredit to the State itself. A stop has been put to this custom at West Point through pressure from the National Government, and parents in Vermont may not hesitate to send their boys to our State Military College on that account, for hazing is now abolished at Norwich University.

IMPROVEMENTS.

Under the head of improvements, we wish first to note the completion, during the past year of Dewey Hall, which has been erected near the Barracks and Dodge Hall.

The Barracks is now used exclusively as a dormitory, Dodge Hall as a recitation building, and Dewey Hall is to be the Administrative building. Its dimensions are 46x84 feet with a stage extension 18x24. The building is a creditable memorial to the hero of Manila Bay.

It contains, besides the administrative offices, an assembly hall, library and rooms for the U. S. weather bureau, which is stationed here. It was much needed, and is much appreciated by all the friends of the University.

We call attention also, to the gift to the University of the library of Archaeology of the late Orlando Dana Miller of South Merrimack, N. H. This is a large and valuable addition to the college library. Also an important gift of books from the estate of the late Dr. P. D. Bradford of Northfield, and another from Mrs. Cushman, consisting of the historical library of the noted Vermont historian Zadoc Thompson.

STATE APPROPRIATIONS AND EXPENDITURES.

We have examined the account of expenditures so far as it comes within our province, and find that the sum appropriated by the State has been expended for the purposes contemplated

by the law authorizing such appropriation, proper vouchers being shown for all such expenditures.

In conclusion, we congratulate the State upon having, under the able management of President Allan D. Brown, such a creditable and efficient State Military College, which not only affords an opportunity for our young men to obtain a liberal college education, but at the same time educates them in Military Science, thus providing capable officers for future military organizations, should occasion ever require: and we would recommend that by legislative enactment the graduates of Norwich University be commissioned as second Lieutenants in the State Militia, and placed on the eligible list for such appointments.

F. E. STEELE,
J. D. DENISON,
FREDERICK P. CARLTON,
H. W. MARVIN,
WALTER E. RANGER,
State Supt. of Education ex-officio.

Board of Visitors.

To His Excellency,
JOHN G. McCULLOUGH,
Governor.

Northfield, Vt., October 9, 1902

ADMISSION Candidates for admission must be at least sixteen years of age, and must present satisfactory evidence of good moral character. Application blanks will be furnished by the President when requested. No person will be admitted who is less than five feet in height, or who is deformed, or afflicted with any disease or infirmity which would render him unfit for military duty, or who has at the time of presenting himself any disorder of an infectious or immoral character.

After matriculation and before enlistment, a physical examination is held by the surgeon, and this examination is repeated at intervals throughout the course. As a proof of the value of the physical exercises afforded by the military training, it may be stated that a recent freshman class showed, within six months, an average increase in weight of 6.69 pounds; in chest expansion of .71 in.; in girth of thigh of 1.28 in.; in girth of calf of .47 in.; in girth of arm of .41 in.; and in girth of forearm of .37 in.; in no case was there a decrease.

EXAMINATIONS FOR ADMISSION

are held in Dodge Hall on the Friday after Commencement and on the first day of the Fall Term, at 10 a. m. All new cadets are required to report at the last mentioned time.

All candidates are examined in the following subjects:

MATHEMATICS.

Arithmetic; Algebra to Quadratics; Plane Geometry.

ENGLISH LANGUAGE.

Grammar; Composition with special attention to punctuation and the use of capitals.

GEOGRAPHY.

Physical and political geography.

HISTORY.

History of the United States.

Those desiring to take the course in

LATIN:

Cæsar's "Commentaries, "four books, or Sallust's "Cataline;" Virgil's "Æneid," six books; Cicero, four orations.

Those desiring to take the course in

ARTS,

in addition to all the above, are examined in

GREEK:

Xenophon's "Anabasis," four books, or one hundred pages Goodwin's Greek Reader; Homer's "Iliad," two books.

ADMISSION BY CERTIFICATE Graduates from approved High Schools or Academies may be admitted upon certificates. Candidates for advanced standing must pass satisfactory examinations in the studies already completed by the class which they propose to enter, as well as in those required for admission. Those, however, from other colleges should bring certificates of honorable dismissal, and marks showing standing. The latter may, on approval by the Faculty, be taken in lieu of examination. No student under sentence of suspension or expulsion from any other institution will be received. Students are considered as on probation for eight weeks.

COURSES OF INSTRUCTION.

THE MILITARY COURSE

is prescribed by the War Department and is obligatory for all students, proficiency therein being required as an essential to graduation.

The University is placed by the War Department in the highest class of institutions to which officers are detailed, and is the only collegiate institution in New England so classed, being thereby entitled to be styled THE WEST POINT OF NEW ENGLAND. The military curriculum is prescribed in General Order 94, Headquarters of the Army, as follows:

Infantry Drill through School of Battalion.
Advance and rear guards and outposts.
Marches.
Battalion Review, Inspection, Parades.
Guard Mounting, Escort of Colors.
Target Practice.
First Aid to injured.
Artillery Drill.
Mechanical Manœuvers.
Aiming Drill and Target Practice.

THEORETICAL.

Drill regulations to cover practical instruction.
Manual of Guard Duty.
Small Arms firing regulations.
Articles of War, with special reference to certain selected articles.
Records, enlistment, discharge papers, descriptive lists, morning reports, field and monthly returns, muster rolls, rosters, ration returns, requisitions, property returns.
Lectures on—
Organization of the Army, patrols and outposts, marches, camps and camp hygiene, lines and bases of operations, attack and defence of advance and rear guards, outposts and convoys.
Elements of Field Engineering.
The Art of War (elementary).

Drills are held for one hour daily (Saturdays and Sundays excepted) throughout the year.

Recitations are held as noted under the different academic courses.

The Cadets are at all times under military discipline, and strict observance of military customs is required, the daily routine of an Army post, including the mounting of the guard and formations for drill and parade, being carried out as far as practicable.

The Cadet Officers are appointed, under the orders of the War Department, in accordance with the customs obtaining at West Point.

ENCAMPMENT

An encampment of ten days is held at the close of the spring examinations, and the Cadets receive instructions in the details of camp life. This encampment is an essential portion of the Military Course and all Cadets who are

in attendance during any portion of the spring term are required to be present thereat, as a part of the obligation assumed by them upon enlistment. There is at this time an inspection by the Adjutant-General of the Vermont National Guard, or by an officer detailed for the purpose.

PRACTICE MARCHES The Encampment may be varied by practice marches about the State. During the encampment, and on the march, the Cadets are at all times under the command of the Commandant, who is responsible for their conduct.

ACADEMIC COURSES.

Four regular courses have been established, as follows:

I. Civil Engineering.
II. Arts.
III. Chemistry.
IV. Science and Literature.

The courses in Civil Engineering and Chemistry have a distinctly practical bearing, and give a thorough training for these technical professions.

The course in Arts embraces the usual classical course with French or German, Physical Science, etc., etc.

The course in Science and Literature is intended for such as may not wish to pursue a full course in Classics or Mathematics, or one for a distinctly scientific profession. It is so arranged that it may be taken either with or without Latin. Candidates for this course without Latin will be required to show an equivalent amount of work in other branches.

Each of these courses extends through four years, and is intended to give the student a liberal preparation for the duties of life.

Changes are made in the course in Chemistry to meet the wants of students preparing for Medicine and Pharmacy.

I. THE COURSE IN CIVIL ENGINEERING.

Leading to the degree of Bachelor of Science in Civil Engineering.

NOTE—The figures after each subject indicate the number of recitation periods of sixty minutes each per week.

FRESHMAN YEAR.

FALL TERM.

Algebra 5
French or German 3
Inorganic Chemistry 3
(text 2, laboratory 1.)
Rhetoric 3
Free-hand Drawing 4
Military Recitations 1

WINTER TERM.

Geometry 5
French or German 3
Inorganic Chemistry 3
(text 2, laboratory 1.)
Rhetoric 3
Lettering 2
Tinting and Shading 2
Military Recitations 1

SPRING TERM.

Trigonometry 5
French or German 3
Inorganic Chemistry 3
text 2, laboratory 1.)
Rhetoric 4
Mechanical Drawing 4
Military Recitations 1

SOPHOMORE YEAR.

FALL TERM.

Analytical Geometry 5
French or German 3
Mechanics and Heat 3
Land Surveying, Leveling and Field Work 6
(text 2, field work 4.)
Detail Drawing, Tracing and Blue Prints (9 weeks) 6
Descriptive Geometry and Drafting (begun in 10th week) 6
Military Recitations 2

WINTER TERM.

Differential Calculus 5
French or German 3
Acoustics and Optics 3
Descriptive Geometry and Drafting 8
Military Recitations 2

SPRING TERM.

Integral Calculus 5
Advanced Surveying, Topographical and Municipal 7
text 3, field work 4.
French or German 3
Electricity and Magnetism 3
Descriptive Geometry and Drafting 6
Military Recitations 2

JUNIOR YEAR.

SUMMER SCHOOL OF THREE WEEKS.

Beginning on the first day of September and giving 144 hours of field and office work.

FALL TERM.

Mechanics of Engineering—
Statics and Dynamics 5
Geology 3
Least Squares 2
Goedetic and Mining Surveying .. 5
Colored and Pen Topography 3
Military Recitations 2

WINTER TERM.

Mechanics of Engineering—
Materials 5
Blowpipe Analysis and Determinative Mineralogy 2
Qualitative Analysis 4
Trusses and Arches 2
Graphics of Trusses and Arches .. 3
Military Recitations 2

SPRING TERM.

Stone Cutting 4
(text 2, drafting 2.)
Mechanics of Engineering—
Hydraulics, Retaining Walls, Masonry Dams 5
Botany 3
Railroad Engineering (curves, turnouts and practical location of railway) 6
(text 2, field work 4.)
Bridge Stresses 6
(text 2, drafting 4.)
Military Recitations 2

SENIOR YEAR.

SUMMER SCHOOL OF THREE WEEKS.

Beginning on the first day of September and giving 144 hours of field or office work.

FALL TERM.

Commercial Law 3
Metallurgy 2
Bridge Designing 2
Railroad Maps 3
Hydraulics 4
Military Recitations 2

WINTER TERM.

Constitutional or International Law 3
Water Supply and Sanitary Engineering 3
Materials of Engineering—Foundations, Canals, Highways 5
Design of Bridges 6
Meteorology .....
Military Recitations 2

Spherical Astronomy—
Determination of Time, Latitude, etc. 5
Contracts and Specifications 3
Political Economy 3
Highway Engineering 2
Railroad Engineering 3
Military Recitations 2

II. THE COURSE IN ARTS.

Leading to the Degree of Bachelor of Arts.

FRESHMAN YEAR.

FALL TERM.

Algebra 5
Memorabilia and Greek Prose 3
Livy and Latin Prose 3
Rhetoric 3
Inorganic Chemistry 3
(text 2, laboratory 1.)
Military Recitations 1

WINTER TERM.

Geometry 5
Herodotus 3
Tacitus—Germania 4
Rhetoric 3
Inorganic Chemistry 3
(text 2, laboratory 1.)
Military Recitations 1

SPRING TERM.

Trigonometry 5
Homer's Odyssey 3
Cicero—
De Senectute, De Amicitia 3
Rhetoric 3
Inorganic Chemistry 3
(text 2, laboratory 1.)
Military Recitations 1

SOPHOMORE YEAR.

FALL TERM.

Sophocles 3
Juvenal's Satires or Ovid 3
Mechanics and Heat 3
Land Surveying 6
(text 2, field work 4.)
State 3
English Literature 3
Military Recitations 2

WINTER TERM.

Demosthenes.....3	State.....3
Horace—Odes and Epodes.....3	English Literature.....3
Acoustics and Optics.....3	Military Recitations.....2

SPRING TERM.

Æschylus.....3	State.....3
Horace—Satires and Epistles.....3	English Literature.....3
Electricity and Magnetism.....3	Military Recitations.....2

JUNIOR YEAR.

FALL TERM.

Demosthenes.....2	State.....3
Pliny.....2	English Literature.....3
Geology.....3	Military Recitations.....2
French or German.....3	

WINTER TERM.

Plato.....2	State.....3
Plautus.....2	English Literature.....3
French or German.....3	Military Recitations.....2

SPRING TERM.

Greek Syntax.....2	State.....3
Latin Syntax.....2	English Literature.....3
French or German.....3	Military Recitations.....2

SENIOR YEAR.

FALL TERM.

Analytical Chemistry.....6	Psychology.....3
French or German.....3	Military Recitations.....2
Commercial Law.....3	

WINTER TERM.

French or German.....3	Logic.....3
International Law.....3	Meteorology.....2
Constitutional Law.....3	Military Recitations.....2

SPRING TERM.

French or German.....3	Astronomy.....5
Political Economy.....3	Military Recitations.....2
Ethics.....3	

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We have examined the account of expenditures so far as it comes within our province, and find that the sum appropriated by the State has been expended for the purposes contemplated

by the law authorizing such appropriation, proper vouchers being shown for all such expenditures.

In conclusion, we congratulate the State upon having, under the able management of President Allan D. Brown, such a creditable and efficient State Military College, which not only affords an opportunity for our young men to obtain a liberal college education, but at the same time educates them in Military Science, thus providing capable officers for future military organizations, should occasion ever require: and we would recommend that by legislative enactment the graduates of Norwich University be commissioned as second Lieutenants in the State Militia, and placed on the eligible list for such appointments.

F. E. STEELE,
J. D. DENISON,
FREDERICK P. CARLTON,
H. W. MARVIN,
WALTER E. RANGER,
State Supt. of Education ex-officio.

Board of Visitors.

To His Excellency,
JOHN G. McCULLOUGH,
Governor.

Northfield, Vt., October 9, 1902

ADMISSION Candidates for admission must be at least sixteen years of age, and must present satisfactory evidence of good moral character. Application blanks will be furnished by the President when requested. No person will be admitted who is less than five feet in height, or who is deformed, or afflicted with any disease or infirmity which would render him unfit for military duty, or who has at the time of presenting himself any disorder of an infectious or immoral character.

After matriculation and before enlistment, a physical examination is held by the surgeon, and this examination is repeated at intervals throughout the course. As a proof of the value of the physical exercises afforded by the military training, it may be stated that a recent freshman class showed, within six months, an average increase in weight of 6.69 pounds; in chest expansion of .71 in.; in girth of thigh of 1.28 in.; in girth of calf of .47 in.; in girth of arm of .41 in.; and in girth of forearm of .37 in.; in no case was there a decrease.

EXAMINATIONS FOR ADMISSION

are held in Dodge Hall on the Friday after Commencement and on the first day of the Fall Term, at 10 a. m. All new cadets are required to report at the last mentioned time.

All candidates are examined in the following subjects:

MATHEMATICS.

Arithmetic; Algebra to Quadratics; Plane Geometry.

ENGLISH LANGUAGE.

Grammar; Composition with special attention to punctuation and the use of capitals.

GEOGRAPHY.

Physical and political geography.

HISTORY.

History of the United States.

Those desiring to take the course in

SCIENCE AND LITERATURE,

are examined also in

LATIN:

Cæsar's "Commentaries, "four books, or Sallust's "Cataline;" Virgil's "Æneid," six books; Cicero, four orations.

Those desiring to take the course in

ARTS,

in addition to all the above, are examined in

GREEK:

Xenophon's "Anabasis," four books, or one hundred pages Goodwin's Greek Reader; Homer's "Iliad," two books.

ADMISSION BY CERTIFICATE Graduates from approved High Schools or Academies may be admitted upon certificates. Candidates for advanced standing must pass satisfactory examinations in the studies already completed by the class which they propose to enter, as well as in those required for admission. Those, however, from other colleges should bring certificates of honorable dismissal, and marks showing standing. The latter may, on approval by the Faculty, be taken in lieu of examination. No student under sentence of suspension or expulsion from any other institution will be received. Students are considered as on probation for eight weeks.

COURSES OF INSTRUCTION.

THE MILITARY COURSE

is prescribed by the War Department and is obligatory for all students, proficiency therein being required as an essential to graduation.

The University is placed by the War Department in the highest class of institutions to which officers are detailed, and is the only collegiate institution in New England so classed, being thereby entitled to be styled THE WEST POINT OF NEW ENGLAND. The military curriculum is prescribed in General Order 94, Headquarters of the Army, as follows:

PRACTICAL.

Infantry Drill through School of Battalion.
Advance and rear guards and outposts.
Marches.
Battalion Review, Inspection, Parades.
Guard Mounting, Escort of Colors.
Target Practice.
First Aid to injured.
Artillery Drill.
Mechanical Manœuvers.
Aiming Drill and Target Practice.

THEORETICAL.

Drill regulations to cover practical instruction.
Manual of Guard Duty.
Small Arms firing regulations.
Articles of War, with special reference to certain selected articles.
Records, enlistment, discharge papers, descriptive lists, morning reports, field and monthly returns, muster rolls, rosters, ration returns, requisitions, property returns.
Lectures on—
Organization of the Army, patrols and outposts, marches, camps and camp hygiene, lines and bases of operations, attack and defence of advance and rear guards, outposts and convoys.
Elements of Field Engineering.
The Art of War (elementary).

Drills are held for one hour daily (Saturdays and Sundays excepted) throughout the year.

Recitations are held as noted under the different academic courses.

The Cadets are at all times under military discipline, and strict observance of military customs is required, the daily routine of an Army post, including the mounting of the guard and formations for drill and parade, being carried out as far as practicable.

The Cadet Officers are appointed, under the orders of the War Department, in accordance with the customs obtaining at West Point.

ENCAMPMENT

An encampment of ten days is held at the close of the spring examinations, and the Cadets receive instructions in the details of camp life. This encampment is an essential portion of the Military Course and all Cadets who are

in attendance during any portion of the spring term are required to be present thereat, as a part of the obligation assumed by them upon enlistment. There is at this time an inspection by the Adjutant-General of the Vermont National Guard, or by an officer detailed for the purpose.

PRACTICE MARCHES The Encampment may be varied by practice marches about the State. During the encampment, and on the march, the Cadets are at all times under the command of the Commandant, who is responsible for their conduct.

ACADEMIC COURSES.

Four regular courses have been established, as follows:

I. Civil Engineering.
II. Arts.
III. Chemistry.
IV. Science and Literature.

The courses in Civil Engineering and Chemistry have a distinctly practical bearing, and give a thorough training for these technical professions.

The course in Arts embraces the usual classical course with French or German, Physical Science, etc., etc.

The course in Science and Literature is intended for such as may not wish to pursue a full course in Classics or Mathematics, or one for a distinctly scientific profession. It is so arranged that it may be taken either with or without Latin. Candidates for this course without Latin will be required to show an equivalent amount of work in other branches.

Each of these courses extends through four years, and is intended to give the student a liberal preparation for the duties of life.

Changes are made in the course in Chemistry to meet the wants of students preparing for Medicine and Pharmacy.

I. THE COURSE IN CIVIL ENGINEERING.

Leading to the degree of Bachelor of Science in Civil Engineering.

NOTE—The figures after each subject indicate the number of recitation periods of sixty minutes each per week.

FRESHMAN YEAR.

FALL TERM.

Algebra.....5
French or German.....3
Inorganic Chemistry.....3
(text 2, laboratory 1.)
Rhetoric.....3
Free-hand Drawing.....4
Military Recitations.....1

WINTER TERM.

Geometry.....5
French or German.....3
Inorganic Chemistry.....3
(text 2, laboratory 1.)
Rhetoric.....3
Lettering.....2
Tinting and Shading.....2
Military Recitations.....1

SPRING TERM.

Trigonometry.....5
French or German.....3
Inorganic Chemistry.....3
text 2, laboratory 1.
Rhetoric.....4
Mechanical Drawing.....4
Military Recitations.....1

SOPHOMORE YEAR.

FALL TERM.

Analytical Geometry.....5
French or German.....3
Mechanics and Heat.....3
Land Surveying, Leveling and Field Work.....6
(text 2, field work 4.)
Detail Drawing, Tracing and Blue Prints (9 weeks).....6
Descriptive Geometry and Drafting (begun in 10th week).....6
Military Recitations.....2

WINTER TERM.

Differential Calculus.....5
French or German.....3
Acoustics and Optics.....3
Descriptive Geometry and Drafting.....8
Military Recitations.....2

SPRING TERM.

Integral Calculus.....5
Advanced Surveying, Topographical and Municipal.....7
(text 3, field work 4.)
French or German.....3
Electricity and Magnetism.....3
Descriptive Geometry and Drafting.....6
Military Recitations.....2

JUNIOR YEAR.

SUMMER SCHOOL OF THREE WEEKS.

Beginning on the first day of September and giving 144 hours of field and office work.

FALL TERM.

Mechanics of Engineering—
Statics and Dynamics.....5
Geology.....3
Least Squares.....2
Goedetic and Mining Surveying..5
Colored and Pen Topography....3
Military Recitations.....2

WINTER TERM.

Mechanics of Engineering—
Materials.....5
Blowpipe Analysis and Determinative Mineralogy.....2
Qualitative Analysis.....4
Trusses and Arches.....2
Graphics of Trusses and Arches..3
Military Recitations.....2

SPRING TERM.

Stone Cutting.....4
(text 2, drafting 2.)
Mechanics of Engineering—
Hydraulics, Retaining Walls, Masonry Dams.....5
Botany.....3
Railroad Engineering (curves, turnouts and practical location of railway).....6
(text 2, field work 4.)
Bridge Stresses.....6
(text 2, drafting 4.)
Military Recitations.....2

SENIOR YEAR.

SUMMER SCHOOL OF THREE WEEKS.

Beginning on the first day of September and giving 144 hours of field or office work.

FALL TERM.

Commercial Law.....3
Metallurgy.....2
Bridge Designing.....2
Railroad Maps.....3
Hydraulics.....4
Military Recitations.....2

WINTER TERM.

Constitutional or International Law.....3
Water Supply and Sanitary Engineering.....3
Materials of Engineering—Foundations, Canals, Highways.....5
Design of Bridges.....6
Meteorology.....
Military Recitations.....2

SPRING TERM.

Spherical Astronomy—
Determination of Time, Latitude, etc. 5
Contracts and Specifications 3
Political Economy 3
Highway Engineering 2
Railroad Engineering 3
Military Recitations 2

II. THE COURSE IN ARTS.

Leading to the Degree of Bachelor of Arts.

FRESHMAN YEAR.

FALL TERM.

Algebra 5
Memorabilia and Greek Prose 3
Livy and Latin Prose 3
Rhetoric 3
Inorganic Chemistry 3
(text 2, laboratory 1.)
Military Recitations 1

WINTER TERM.

Geometry 5
Herodotus 3
Tacitus—Germania 4
Rhetoric 3
Inorganic Chemistry 3
(text 2, laboratory 1.)
Military Recitations 1

SPRING TERM.

Trigonometry 5
Homer's Odyssey 3
Cicero—
De Senectute, De Amicitia 3
Rhetoric 3
Inorganic Chemistry 3
(text 2, laboratory 1.)
Military Recitations 1

SOPHOMORE YEAR.

FALL TERM.

Sophocles 3
Juvenal's Satires or Ovid 3
Mechanics and Heat 3
Land Surveying 6
(text 2, field work 4.)
State 3
English Literature 3
Military Recitations 2

WINTER TERM.

Demosthenes.....3	State.....3
Horace—Odes and Epodes.....3	English Literature.....3
Acoustics and Optics.....3	Military Recitations.....2

SPRING TERM.

Æschylus.....3	State.....3
Horace—Satires and Epistles.....3	English Literature.....3
Electricity and Magnetism.....3	Military Recitations.....2

JUNIOR YEAR.

FALL TERM.

Demosthenes.....2	State.....3
Pliny.....2	English Literature.....3
Geology.....3	Military Recitations.....2
French or German.....3	

WINTER TERM.

Plato.....2	State.....3
Plautus.....2	English Literature.....3
French or German.....3	Military Recitations.....2

SPRING TERM.

Greek Syntax.....2	State.....3
Latin Syntax.....2	English Literature.....3
French or German.....3	Military Recitations.....2

SENIOR YEAR.

FALL TERM.

Analytical Chemistry.....6	Psychology.....3
French or German.....3	Military Recitations.....2
Commercial Law.....3	

WINTER TERM.

French or German.....3	Logic.....3
International Law.....3	Meteorology.....2
Constitutional Law.....3	Military Recitations.....2

SPRING TERM.

French or German.....3	Astronomy.....5
Political Economy.....3	Military Recitations.....2
Ethics.....3	

Leading to the Degree of Bachelor of Science in Chemistry.

FRESHMAN YEAR.

FALL TERM.

Algebra.....5	Rhetoric.....3
French or Latin*.....3	Free-hand Drawing.....4
Inorganic Chemistry.....2	Military Recitations.....1
(text 2, laboratory 1.)	

WINTER TERM.

Geometry.....5	Rhetoric.....3
French or Latin.....3	Lettering.....2
Inorganic Chemistry.....3	Tinting and Shading.....2
(text 2, laboratory 1.)	Military Recitations.....1

SPRING TERM.

Trigonometry.....5	Rhetoric.....3
French or Latin.....3	Mechanical Drawing.....4
Inorganic Chemistry.....3	Military Recitations.....1
(text 2, laboratory 1.)	

SOPHOMORE YEAR.

FALL TERM.

French or Latin.....3	English Literature.....3
Mechanics and Heat.....3	Military Recitations.....2
Qualitative Analysis.....10	

WINTER TERM.

French or Latin.....3	Qualitative Analysis.....6
Acoustics and Optics.....3	English Literature.....3
Blowpipe Analysis.....6	Military Recitations.....2

SPRING TERM.

French or Latin.....3	Quantitative Relations.....3
Electricity and Magnetism.....3	English Literature.....3
Qualitative Analysis.....10	Military Recitations.....2

* Requires the same preparation as for the Course in Science and Literature.

JUNIOR YEAR.

FALL TERM.

Geology.....3
Organic Chemistry.....2
Gravimetric Analysis.....10
Zoölogy.....2
English Literature.....3
German.....3
Military Recitations.....2

WINTER TERM.

Organic Chemistry.....2
Gravimetric Analysis.....12
English Literature.....3
German.....3
Military Recitations.....2

SPRING TERM.

Organic Chemistry.....2
Volumetric Analysis.....10
German.....3
English Literature.....3
Botany.....3
Military Recitations.....2

SENIOR YEAR.

FALL TERM.

Commercial Law.....3
Metallurgy.....2
German.....3
Toxicology.....6
Medical Chemistry.....6
Military Recitations.....2

WINTER TERM.

Constitutional Law.....3
International Law.....3
German.....3
Food Analysis.....12
Meteorology.....2
Military Recitations.....2

SPRING TERM.

Political Economy.....3
German.....3
Water Analysis.....10
Military Recitations.....2

IV. THE COURSE IN SCIENCE AND LITERATURE.

Leading to the degree of Bachelor of Science.

(Subjects in brackets [ ] for students not taking Latin.

FRESHMAN YEAR.

FALL TERM.

Algebra.....5
Livy and Latin Prose.....3
Inorganic Chemistry.....3
(text 2, laboratory 1.)
Rhetoric.....3
French.....3
[Free-hand Drawing.....4]
Military Recitations.....1

SPRING TERM.

Trigonometry 5	Rhetoric 3
Cicero—	French 3
De Senectute, De Amicitia 3	[Mechanical Drawing ..... 4]
Inorganic Chemistry 3	Military Recitations 1
(text 2, laboratory 1.)	

SOPHOMORE YEAR.

FALL TERM.

Juvenal's Satires 3	State 3
Mechanics and Heat 3	English Literature 3
French 3	[Analytical Geometry ..... 5]
Land Surveying 6	Military Recitations 2
(text 2, field work 4.)	

WINTER TERM.

Horace—Odes and Epodes 3	English Literature 3
Acoustics and Optics 3	[Differential Calculus ..... 5]
French 3	Military Recitations 2
State 3	

SPRING TERM.

Horace—Satires and Epistles 3	English Literature 3
Electricity and Magnetism 3	[Integral Calculus ..... 5]
French 3	Military Recitations 2
State 3	

JUNIOR YEAR.

FALL TERM.

German 3	State 3
Geology 3	English Literature 3
Zoölogy 2	Military Recitations 2

WINTER TERM.

German 3	State 3
Analytical Chemistry 6	English Literature 3
Blowpipe Analysis 2	Military Recitations 2

SPRING TERM.

German	3	State	3
Botany	3	English Literature	3
Analytical Chemistry	6	Military Recitations	2

SENIOR YEAR.

FALL TERM.

German	3	Psychology	3
Commercial Law	3	Military Recitations	2
Metallurgy	2		

WINTER TERM.

German	3	Constitutional Law	3
International Law	3	Logic	3
Meteorology	2	Military Recitations	2

SPRING TERM.

German	3	Ethics	3
Political Economy	3	Military Recitations	2
Astronomy	5		

TEXT BOOKS AND BOOKS OF REFERENCE.

MATHEMATICS.

Algebra ..... Wells' University
Geometry ..... Phillips & Fisher
Trigonometry .... Phillips & Strong
Analytical Geometry ..... Loomis
Calculus ..... Taylor
Descriptive Geometry ..... Church
Mechanics ..... Wood
Least Squares ..... Merriman
Astronomy ..... White

ENGINEERING.

Surveying ..... Johnson
Railroad Surveying ..... Carhart
Bridge Stresses ..... Merriman
Civil Engineering .... Panton and Trautwine
Specifications ..... Johnson
Hydraulic Engineering ..... Folwell
Sanitary Engineering ..... Folwell
Stereotomy ..... Mahan
Stresses in Framed Structures ..... Johnson and Bryant
Wellington's Earth Work Computation.
Foundations ..... Patton
Bridge Designing ..... Merriman
Hydraulics ..... Merriman

SCIENCES.

Botany—Gray's Manual and Lessons.
Chemistry—Inorganic ..... Newth
Chemistry, Analysis, Qualitative, Elliot, Fresenius.
Volumetric Analysis ..... Sutton
Analysis, Quantitative ..... Evans Fresenius.
Organic Industrial Chemistry, Sadtler.
Blowpipe, Plimpton's Qualitative, Plattner's Qualitative and Quantitative, by Cornwall.
Metallurgy and Assaying, Hiorn's
Medical Chemistry, Ralfe's Clinical Chemistry.
Organic ..... Remsen
Food Adulteration and its Detection ..... Battershall, Blyth
Toxicology ..... Blyth
Physics—Principles of Physics, Gage.
Zoölogy ..... Packard
Practical Zoölogy ... Marshall and Hurst.
Geology ..... Le Conte's Compend
Mineralogy, Dana's Manual, and Foye's Tables.

MODERN LANGUAGES.

French....Whitney's French Grammar.
Super's French Reader.
French Literature.
German..Harris' German Lessons.
Joynes'-Meissner German Grammar
Huff's German Reader.
German Literature.

HISTORY, POLITICAL SCIENCE AND LAW.

English.....Montgomery
Political Economy.....Walker
Psychology.....James
Logic.....Jevons
Ethics.....Hyde
International Law.....Woolsey
Constitutional Law.....Cooley
Commercial Law.....Townshend
The State.....Wilson
Documents of American History.

ENGLISH.

Rhetoric...Hill's Principles of Practical Rhetoric.
Genung's Practical Rhetoric.
Lewis' Inductive Rhetoric.
Elocution—Clark's Notes on Reading.
Bacon's Manual of Gesture.
English Literature.....Arnold

MILITARY SCIENCE.

Drill Regulations for Infantry and Artillery.
Small Arms Firing Regulations.
Wagner's Organization and Tactics.
Wagner's Security and Information.
Batchelor's Fire Discipline.
Winthrop's Military Law.
Manual of Field Engineering.
Also other books and publications which are found suitable for instruction in military work.

DEGREES, ETC.

The candidate for any degree must deposit with the faculty a satisfactory thesis on some scientific or literary subject connected with his department.

DEGREES OF GRADUATION

The degree of Bachelor of Science in Civil Engineering is conferred upon any student who has completed the course in Civil Engineering.

The degree of Bachelor of Arts is conferred upon any student who has completed the course in Arts.

ADVANCED DEGREES

The degree of Master of Arts, or Master in Science, including that of Civil Engineer, may be conferred on graduates of two years' standing of this or any other reputable college, who have spent at least one year in post-graduate studies under the direction of the faculty, and on graduates of three years' standing who have during that time been engaged in professional, literary or scientific pursuits, or have pursued a course of liberal study, subject to the approval of the faculty.

Candidates for either degree are required to present a thesis upon some branch of liberal study pursued since graduation, and to pass an examination before the faculty. The thesis must be presented at least three weeks before commencement and a copy furnished to be placed in the library of the University.

TEACHER'S CERTIFICATES.

In accordance with the decision of the State Superintendent of Education, "Graduates are entitled to a five years' teacher's certificate without examination."

COMMISSIONED OFFICERS.

Upon graduation, Cadet Officers receive commissions in the Norwich Cadets, signed by the President of the University, and by the Adjutant and Inspector-General of the State. The Board of Visitors have recommended that those who are residents of Vermont, be, upon special recommendation of the President, commissioned as additional Second-Lieutenants in the Vermont Na-

SCHOLARSHIPS.

The State of Vermont furnishes [illegible] are at the disposal of the County [illegible] ing vacancies in these appointments [illegible] pli cation to the President. The [illegible] and room rent.

There are also additional scholarships [illegible] for the aid of deserving students, as will [illegible] erning which may be obtained on application [illegible]

The [illegible] Denny Scholarship, [illegible] the late Chauncey Denny of Northfield [illegible] ber of the Board of Trustees, first [illegible] folk, and next to the benefit of residents of Norwich.

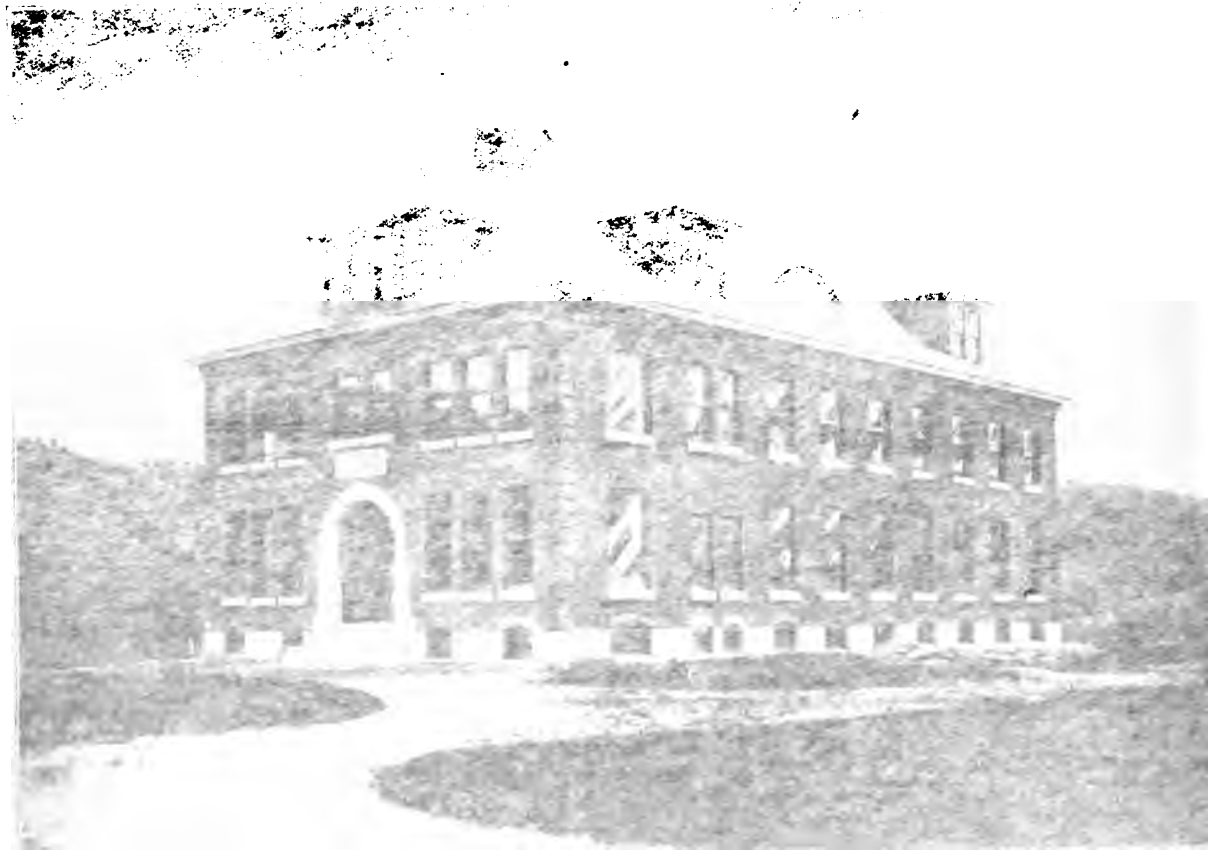
The Hayward Latin Prize Scholarship, [illegible] Susan Perkins Hayward of Colebrook, New Hampshire, [illegible] under the Hon. Hamilton Hill Harris [illegible]

The Scholarship of the Class of [illegible]

The Scholarship of the Class of [illegible]

The Scholarship of the Class of [illegible]

The Scholarship of the Class of [illegible]



SCHOLARSHIPS.

The State of Vermont furnishes thirty scholarships, which are at the disposal of the County Senators; information regarding vacancies in these appointments will be furnished upon application to the President. These Scholarships cover tuition and room rent.

There are also additional scholarships covering tuition only, for the aid of deserving students, as follows, information concerning which may be obtained on application to the President:

The CHAUNCEY DENNY Scholarship, founded by the will of the late Chauncey Denny of Northfield, for many years a member of the Board of Trustees, first for the benefit of his kinsfolk, and next for the benefit of residents of Northfield.

The HAMILTON ELIOT PERKINS Scholarship, founded by Miss Susan Perkins of Concord, New Hampshire, in memory of her father, the Hon. Hamilton Eliot Perkins of the Class of 1824.

The Scholarship of the Class of 1899.

The Scholarship of the Class of 1900.

The Scholarship of the Class of 1901.

The Scholarship of the Class of 1902.

LIBRARY AND READING ROOM.

The library is placed in Dewey Hall, where stacks to accommodate 12,000 volumes have been erected, and there is already demand for more shelf room. During the past year, the library of the late Orlando Dana Miller, A. M., D. D., '45, has been donated by Dr. Miller's daughters, Elizabeth Miller and Eva D. Ramsay, and it has been placed in a position by itself in the stack room.

The Librarian will be glad to receive donations of books, especially those of a technical nature, or those written by any of the old cadets.

The reading room is open daily for the use of the cadets from 9 a. m. to 7 p. m., and on Friday and Saturday evenings until 10 o'clock; also on Sundays from 2 to 7 p. m.

A liberal supply of periodicals is furnished and a number of newspapers are kept on file in the paper room in the Barracks, where they can be readily used as desired.

Among these publications may be mentioned the following:

Atlantic,
Army and Navy Journal,
Army and Navy Record,
Bookman,
Century,
Chatauquan,
Cosmopolitan,
Current Literature,
Engineering (London),
Engineering Magazine,
Engineering News,
Engineering Record,
Everybody's,
Forum,
Harper's Monthly,
Harper's Weekly,
Journal Military Service Institution,
Literature,
Literary Monthly,
McClure's,
Munsey,
New England,
North American,
Outing,
Outlook,
Proceedings American Society C. E.
Proceedings Naval Institute,
Review of Reviews,
Scientific American,
Scribner's,
Strand,
Success,
United Service,
Vermonter,
World's Work.

Boston Globe,
Boston Transcript,

Montpelier Argus,
Montpelier Journal,
New York Sun,
St. Albans Messenger,
Bennington Weekly Banner,
Randolph Herald and News,
Northfield News,
Saturday Evening Post.

Recent donations to the Library and Museum:

Miss Minnie Moore, Northfield, 700 volumes and 1200 pamphlets, from the estate of the late P. D. Bradford, M. D.

Mrs. W. F. Cushman, Northfield, 125 volumes, from the estate of the late Zadoc Thompson.

Prof. John B. Johnson, '79, 100 volumes.

Maj. H. E. Alvord, Washington, '63, 3 volumes Reveille, 1861–62–63.

Edward Adams, Esq., M. S., '64, New York, complete file Proceedings American Society of Civil Engineers.

Mr. William Stone, Northfield, magazines.

Mrs. Mary P. Ford, Northfield, 5 volumes and magazines.

Captain John L. Moseley, Northfield, G. A. R. Reports.

Mr. Edson Doe, Newbury, History of Newbury.

G. Harold Ellis, Rutland, Mass., '98, 30 volumes.

William A. Ellis, Librarian, '97, 50 volumes.

Mrs. D. B. Wooster, Northfield, 8 volumes.

Mrs. H. H. Coxe, Northfield, 12 volumes.

Mrs. W. J. Kidder, Northfield, 10 volumes magazines.

Gen. Grenville M. Dodge, New York, '50, magazines.

Gen. W. W. H. Davis, Doylestown, Penn., '43, 2 volumes.

Mrs. Fred Whitney, Northfield, magazines.

Johnson Post, G. A. R., Northfield, G. A. R. Reports.

Col. C. A. Coolidge, 9th Inf., U. S. A., '63; Chinese Armor from Palace of 7th Prince of Imperial Dynasty, Pekin, China. Bolos captured at Tarlac, P. I.

Capt. Chas. W. Mead, U. S. Vols, '81, Filippino Flag.

Col. Edmund Rice, 19th Inf., U. S A., Books, Bolo, Filippino Shoulder Straps, U. S. Flag made by Filippinos.

Comdr. G. P. Colvocoresses, U. S. N., '64, Armor piercing shells, Cavite, P. I.

It is hoped soon to publish a catalogue of articles in the Museum which is now placed in Dewey Hall, where there is ample room for future contributions, which are respectfully solicited.

Donations of funds for current expenses have also been received from Gen'l G. M. Dodge, '50; Edward D. Adams, '64; Waldo P. Clement, '72, and 1st Lieut. W. B. Carr, U. S. Army, '97.

GENERAL INFORMATION.

The charge for the academic year, (including Tuition, Room Rent, Heat, Light, Library and Incidentals and excluding Board,) is $116.00 payable as follows:

Fall Term,	$63.00.
Winter Term,	26.00.
Spring Term,	27.00.
	$116.00.

Board is readily obtainable in the village; the usual charge being $3.25 per week. Members of the fraternities mess at their respective fraternity houses. Self-board is also practicable.

The rooms are generally unfurnished; in a few cases where the room furniture is the property of the University, a small annual rental is charged. The cost of furnishing a room is about $15.00 to each occupant; this furniture is of prescribed pattern.

The Barracks are lighted by electricity and heated by steam, the charge for these being included in the bill for the Fall Term.

Students should bring all their bed linen (for single bed), blankets, pillow and towels.

Laundry facilities are accessible in the village at reasonable rates.

PAYMENT OF BILLS *All bills are payable in advance, by the first Friday of each term, and cadets will not be admitted to the privilege of the section rooms until their bills are paid.* The Treasurer will be in attendance at his office daily, until the expiration of the time for this payment.

If for any reason delay in payment is desired, satisfactory arrangements must be made therefor in writing, prior to this time.

No cadet in debt to the University will be permitted to enter the examinations at the close of a term.

No deduction is made for absence from the Mess Hall, unless such absence is continuous for at least one week; and then only on approved application for leave, and notice given in writing to the Mess Hall by the cadet.

FEES Students in the Course in Chemistry are required to deposit $10 at the beginning of each term of the Sophomore, Junior and Senior years, the amount not con-

The average expense for materials for students in the Chemical course is from $6 to $8 per term.

In the Engineering course in Qualitative Analysis, $3 is charged in the second term of the Junior year. In the other courses a fee of $5 per term is charged for Qualitative Analysis.

A fee of $3 per term is charged for Determinative Mineralogy.

A chemical fee of $1 per term is charged members of the Freshman class.

These charges are for chemicals, and do not include breakage or waste of materials.

The fee for the Summer School in the Engineering Course is $6; persons not cadets, who are properly prepared, may join this school, the fee being $25. Subsistence and other necessary expenses are not included in these amounts.

A fee of $1.00 per term is charged to Engineering students engaged in field work.

The diploma fee on graduation is $10.

A deposit of fifty cents is required for each room key obtained by a cadet; returnable when the key is returned.

POSITIONS FOR ALUMNI Alumni desiring positions may send their addresses to the President, as he is frequently in receipt of applications for our men.

THE REVEILLE The Cadets conduct a monthly magazine devoted to the interests of the University, the Alumni, and the Corps.

STUDENTS' SOCIETIES Two fraternities, A Σ P and Θ X, exist among the students (having been founded some forty years ago), in which valuable literary work is done, while at the same time social privileges are enjoyed.

RELIGIOUS FEATURES Prayers are held in the morning before the opening of academic exercises, the President officiating. On Sunday morning each Cadet is required to attend divine service with some one of the village

congregations, the choice being made at the beginning of, and adhered to throughout, the term. The religious societies of the village are: Congregational, Episcopal, Methodist, Roman Catholic and Universalist. While Cadets are held to a strict observance of the rules for religious exercises, and while all immoralities are carefully guarded against, yet the institution is in every respect non-sectarian.

ACADEMIC HONORS

A Cadet having a general average for the year of 90 or more receives "honorable mention;" having 90 or more in all branches for the year receives "very honorable mention." One receiving 90 or more in all branches for the whole course is graduated "with highest honors;" one receiving "honorable mention" for each year in the course is graduated "with very high honor." "Honorable mention" in any subject is made of any Cadet who receives 90 or more in the subject for the current year, or for one term, when the subject is completed in that term. If "honorable mention" is made in any branch, on the completion thereof, the recipient is graduated "with honors in————." If "honorable mention" is made in two or more branches, the recipient is graduated "with honors in————and————."

These mentions are made at Commencement and published in the catalogue.

The names of the three members of the Senior Class, who are most distinguished in the Military Department are reported to the Secretary of War, and are published in the Army Register of the year following.

The names of all those members of the Senior class who have shown special aptitude for military service are reported to the Secretary of War and the Adjutant General of the State.

THE SHELDON PRIZE SPEAKING

Three prizes of $15, $10 and $5 respectively, are given to the three of the eight competitors from the Sophomore and Freshman classes who show the greatest merit in declamation or debate, in a contest

held during Commencement week. These competitors are chosen at a preliminary contest held early in the spring term, *in which all members of both classes are required to participate*, as a portion of the course in rhetoricals. Prize winners in previous contests are debarred from competing.

THE AUSTIN TROPHY Mr. Fred T. Austin, M. S. (1888) 1st. Lieutenant, Artillery Corps, U. S. Army, has established an annual trophy, consisting of three medals, of gold, silver and bronze, respectively, given to the three Cadets making the highest score at target practice, the winners holding them for one year, provided they remain members of the University.

THE FACULTY GOLD MEDAL This medal is bestowed upon the member of the Senior class who has the highest academic standing from entrance to the close of the winter term of the Senior year.

THE THOMAS MEDAL Mr. Geo. D. Thomas, M. A. (1876), gives annually a gold medal to the Cadet who has the highest general average for the year ending with the close of the winter term; this competition is open to the three Senior classes.

THE SHUTTLEWORTH SWORD Captain E. A. Shuttleworth, U. S. A., M. S. (1891), gives annually, a regulation foot-officer's sword to the member of the Junior class having the highest military standing from entrance to the close of the Junior year.

THE JUCKETT MEDAL The Hon. Elmer R. Juckett, M. S. (1889), gives annually a gold medal to the member of the base ball team, either regular or substitute, who has the highest academic standing for the year.

THE SOPOHMORE PRIZES A silver medal is given by the President to each of the three members of the Sophomore class, whose general average, military and academic standing, respectively, are the highest.

THE FRESHMAN PRIZES A silver medal is given by the President to each of the three members of the Freshman class, whose general average, military and academic standing, respectively, are the highest.

STANDING, ETC. Academic standing depends upon recitations; military standing upon marks of merit and demerit, together with proficiency in military duties; the general average is determined by combining the academic and military standings, the former counting two and the latter one. Immoralities, technical and minor offences, are marked with demerits, and are punishable in other ways. Whenever purely academic duties require variation in special matters, the analogies of military usage are maintained so far as practicable.

UNIFORM The dress uniform consists of a dark blue blouse, with standing collar, dark blue trousers with red stripe, black cravat, white linen standing collar, U. S. regulation forage cap, boots or high shoes of black leather. A dark blue overcoat of University pattern may be worn with this uniform under certain restrictions. The fatigue uniform for daily wear, including overcoat, is furnished by the University, of Army pattern and material; the cap and campaign hat to go with this are sold at cost price (about $1.75) to each cadet. An inexpensive uniform of Khaki is required for warm weather.

The dress uniform is made of a special standard cloth, by the University contractor, at a cost of $25.50, including a cap and one pair of white gloves. Khaki uniforms are also made of a special standard cloth, at a cost of $8.50.

UNIFORM BOND A bond in the sum of $25 is required of every cadet drawing the fatigue uniform, with some responsible person as security, to ensure its return when called for; all alterations and repairs must be made at the expense of the wearer and all reasonable wear will be allowed without charge.

ABSENCE The number of leaves involving absence over Sunday without affecting the record of a cadet is limited to two per term, any further absence will be counted

as unexcused, and will affect the record for deportment and military standing.

Generally speaking, students are expected to remain in attendance during the whole of a term, unless granted special leave of absence. Parents and guardians are requested to restrict their applications for leave for their sons or wards to cases of actual necessity. There is no Thanksgiving recess.

Those who are absent for any cause for 20% or more of the assigned recitations in any subject, are required to pass an extra examination, having a weight in the term mark equal to the per cent. of absences. If 15% or more of absence occurs within four consecutive weeks, the recitations lost are required to be made up by examination within a week of return. If a Cadet leaves during a term for any cause except for continued sickness, no reduction is made in the term bill; in case of sickness, the loss is shared equally by the Cadet and the University.

ATHLETICS The Athletic Association is governed by a committee consisting of members of the Faculty, the Alumni and the Cadets, who make such regulations and arrangements regarding athletic matters as may seem proper. The registered colors are maroon and old gold.

LOCATION Northfield being located on the main line of the Central Vermont Railway, is easy of access from all directions. The Barracks are in direct telegraphic and telephonic connection with the offices and exchanges in Vermont and elsewhere. There is probably no State that can boast of a more healthful climate than Vermont. Northfield is in the central part of the State, ten miles from the Capital, Montpelier. A popular resort in summer, it loses none of its healthfulness in winter. The water is pure and clear, and the University owns its water system which is supplied from springs in the hills at some distance from the Barracks.

REDUCED FARES The Central Vermont and Rutland Railroads carry students for two cents per mile, on certificates, to be obtained through the President. To secure these, application should be made not later than September 5th.

ASSOCIATE ALUMNI AND PAST CADETS.

By action of the Trustees and in accordance with the amended charter, the Alumni and Past Cadets are entitled to elect one member of the Board of Trustees each year. The meetings of the Association are held in Dodge Hall annually, on the evening preceding Commencement, at eight o'clock.

OFFICERS FOR 1902-1903.

PRESIDENT:

GEORGE D. THOMAS, '76, *Boston.*

VICE-PRESIDENTS:

W. R. DORR, '73, *St. Paul, Minn.*
F. B. THOMAS, '95, *Montpelier, Vt.*
C. A. PLUMLEY, '96, *Northfield, Vt.*

SECRETARY:

W. A. SHAW, '88, *Northfield.*

TREASURER:

M. D. SMITH, '81, *Northfield*

ATHLETIC DIRECTORS:

FRED B. THOMAS, '95, *Montpelier, Vt.*
WILLIS E. TERRILL, '89, *Montpelier, Vt.*
HEBER C. CADY, '91, *Northfield, Vt.*

Members of the Association not present may vote by written ballot at the annual election of Trustees. It is therefore important that each member keep the Secretary informed of his full address, and notify him promptly of any change.

BOSTON ALUMNI ASSOCIATION.

OFFICERS FOR 1903.

PRESIDENT:

N. L. SHELDON, '84.

VICE-PRESIDENT:

DR. CHARLES F. KINGSBURY, '51.
J. J. DEWEY, '65.
E. W. CLARK, '92.

SECRETARY:

B. W. GLEASON, M. D., '92,
47, 48 Niles Building, School Street, Boston.

TREASURER:

J. ALBERT HOLMES, '94.

NEW YORK ALUMNI ASSOCIATION.

OFFICERS FOR 1903.

PRESIDENT:

GRENVILLE M. DODGE, '50.

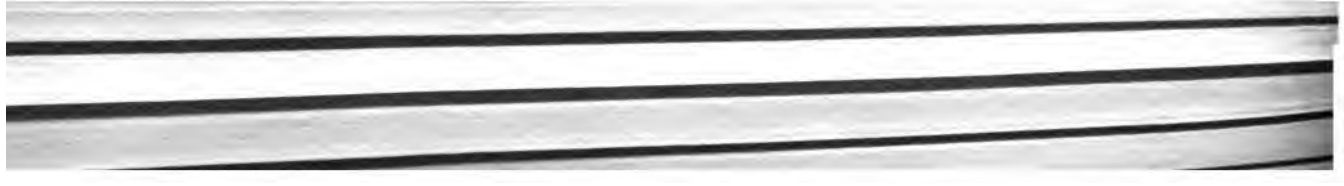
SECRETARY AND TREASURER:

W. N. JONES, *Room 218, 1 Broadway.*

WESTERN ALUMNI ASSOCIATION.

PRESIDENT:

WM. R. DORR, '73, *St. Paul.*



HONOR LIST.

Valedictorian and Senior Gold Medalist,

LAURENCE BERNARD STEBBINS.

Salutatorian,

GUY HENRY WATSON.

Commencement Speakers,

FRANK HENRY BURR,
ROBERT TRUMAN PHINNEY,
HARRY MANSUR HOBSON.

Reported to the War Department and to the Adjutant General of the State as most distinguished in the Military Department.

GUY HENRY WATSON,
ROBERT TRUMAN PHINNEY,
JOHN THEODORE SMITH.

Winners in the Prize Speaking Contest,

First Prize, JOSEPH HAROLD DENNY, '05.
Second Prize, EDWARD MOORE, '05.
Third Prize, WILLIAM RENSSELLAER MCFEETERS, '05.

Winners of the Austin Trophy,

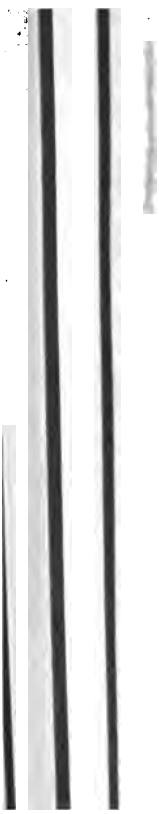
Gold, SETH WILLIAMS, '03.
Silver, JOHN HAROLD FOSTER, '03,
Bronze, ELROY ALBERT CHASE, '03.

Winner of the Thomas Medal,

GEORGE CHRISTOPHER RANDALL.

Winner of the Shuttleworth Sword,

JOHN HAROLD FOSTER.



General Average, GEORG
Military Standing, GEORG
Academic Standing, GEORG

FRESH

General Average, RALPH
Military Standing, WILLI
Academic Standing, ERNES

HONORABLE MENTION.

Cadets having an Average of 90 or more for the year in any Subject or Branch.

SENIORS.

F. H. BURR, Engineering Subjects, Geology, Meteorology.

R. T. PHINNEY, Meteorology.

L. B. STEBBINS, Astronomy, International Law, Meteorology.

G. H. WATSON, Meteorology.

JUNIORS.

K. R. B. FLINT, Botany, Geology, Zoology, State, French. Literature.

J. H. FOSTER, Chemistry, Literature, Geology, Zoology.

S. L. FULLER, Geology.

S. WILLIAMS, Botany.

S. J. PARSONS, Geology.

R. L. WILKINS, Botany, State, Constitutional Law, International Law, Commercial Law, Literature, Psychology, Political Economy.

SOPHOMORES.

W. S. HUTCHINSON, French.

H. E. C. RAINEY, French.

G. C. RANDALL, French, Physics.

G. G. RUSSELL, Literature, Chemistry.

FRESHMAN.

R. A. BOOTH, Latin, Greek.

J. C. COULOMBE,

H. R. DEAL, French.

E. A. LAWRENCE, Mathematics, French.

P. C. SINCLAIR, Mathematics.

BATTALION ORGANIZATION.

CAPTAIN HENRY W. HOVEY, 24th Infantry, U. S. Army,
Commandant.

CADET MAJOR SETH WILLIAMS.

CADET 1ST LIEUT. STANLEY JOHN PARSONS, Quartermaster.

CADET 1ST LIEUT. JOHN HENRY BYRD, Adjutant.

CADET SERGT.-MAJOR GILBERT CLARENCE EASTMAN.

CADET QUARTER-MASTER SERGEANT BERTRAM DORR BARKER.

CADET COLOR SERGEANT KEMP RUSSELL BLANCHARD FLINT.

COMPANY A.

CADET CAPTAIN JOHN HAROLD FOSTER,

CADET 1ST LIEUT. MARSHALL MORRILL STOCKEN,

CADET 2ND LIEUT. ARTHUR GARFIELD BAKER,

CADET 1ST SERGT. GEORGE CHRISTOPHER RANDALL.

COMPANY B.

CADET CAPTAIN SAMUEL LESLIE FULLER,

CADET 1ST LIEUT. ALLAN RAWSON WILLIAMS,

CADET 2ND LIEUT. ROBERT BURNS FARQUHARSON,

CADET 1ST SERGT. ERNEST STEARNS BALL.

POST GRADUATE STUDENT.

Name.	*Course.*	*Home Address.*
Henry Albert Chase,	Ch	*Bradford Center*

SENIOR CLASS.

Name.	*Course.*	*Home Address.*
Arthur Garfield Baker,	C. E	*Northfield*
Ernest Stearns Ball,	C. E	*Gardner, Mass.*
Bertrand Dorr Barker,	C. E	*Poultney*
John Henry Byrd,	C. E	*Randolph*
Elroy Albert Chase,	C. E	*Northfield*
Gilbert Clarence Eastman,	C. E	*Milford, Mass.*
Robert Burns Farquharson,	C. E	*So. Ryegate*
Kemp Russell Blanchard Flint,	S. & L	*Montpelier*
John Harold Foster,	Ch	*Waltham, Mass.*
Samuel Leslie Fuller,	C. E	*Bennington*
Emilio Guerra y Giro,*	C. E	*Santiago de Cuba*
Fritz Louis Metzger,	C. E	*Rutland*
Stanley John Parsons,	C. E	*Elmore*
John Tinney Powers,	C. E	*Bennington*
Marshall Morrill Stocker,	C. E	*Danville*
William Clarence Thompson,	Ch	*Northfield*
Allan Rawson Williams,	C. E	*Jericho*
Seth Williams,	C. E	*Foxboro, Mass.*

* Subject to examination.

JUNIOR CLASS.

Name.	*Course.*	*Home Address.*
Charles Franklin Gallup,	C. E	*West Woodstock*
Ralph Leon Gilman,	C. E	*Chelsea*
William Selden Hutchinson,	C. E	*Enosburgh Falls*
Joseph Edmund McGreen,*	Ch	*Bellows Falls*
John Kent Morris,	C. E	*Waldrop, Virginia*
Harry Arthur Peabody,	C. E	*Chester*
Earl Dexter Perry,	C. E	*Worcester, Mass.*
Homer Eyton Chase Rainey,	C. E	*Randolph*
George Christopher Randall,	C. E	*Woodsville, N. H.*
Guy Garfield Russell,	Ch	*Hartland*
William Elbridge Charles Washburn,	C. E	*Northfield*

SOPHOMORE CLASS.

Name	*Course.*	*Home Address.*
Ralph Alburton Booth,	Arts	*Morrisville*
Joseph Cleophas Coulombe,	C. E	*Island Pond*
Harry Raymond Deal,	C. E	*Piermont, N. H.*
Joseph Harold Denny,	Ch	*Northfield*
Homer Ferrin,	C. E	*Montpelier*
Edward Irvin Hibbard,	C. E	*Chelsea*
John Joseph Howard,	Ch	*Bellows Falls*
Haroll Moore Howe,	C. E	*Northfield*
Ernest Allen Lawrence,	C. E	*Montpelier*
Edward Moore,	S. & L	*Island Pond*
William Henry Morrill,	C. E	*Northfield*
Joy Clyde Ross,	C. E	*Imlay City, Mich.*
Percivale Creighton Sinclair,	C. E	*Johnson*
Fred Elton Steele, Jr.,	S. & L	*Gaysville*
Daniel Putnam Thompson,	C. E	*Bellows Falls*

* Subject to examination.

Name.	*Course.*	*Home Address.*
Sydney Wallace Bampton	C. E	*Boston, Mass.*
Ludlow Osmond Barker, Jr.,	C. E	*Montpelier*
Daniel Rogers Barney, Jr.,	C. E	*Springfield*
Carl Augustus Barret,	C. E	*Stoneham, Mass.*
Hugh James Betterley,	C. E	*Brattleboro*
Clarence Myron Burnett,	C. E	*Bethel*
Arthur Emory Burr,	C. E	*Bellows Falls*
Clarence Ray Calderwood,	C. E	*St. Johnsbury*
William Edward Carleton,	C. E	*Cumberland Mills, Me.*
William Safford Clarke,	Arts	*Milford, Mass.*
William John Darling,	C. E	*So. Ryegate*
Harry Freeman Doe,	C. E	*Newbury*
John Edwin Donohue,	C. E	*Northfield*
Alvah Robinson Eaton,	C. E	*Springfield*
Halsey Charles Edgerton,	C. E	*Northfield*
Dana Howes Gilman,	C. E	*Brattleboro*
Charles Ralph Hartwell,	C. E	*Montpelier*
Bradford Pierce Hovey,	C. E	*Northfield*
Carl George Huntington,	C. E	*Randolph*
Edwin Dana Huntley,	C. E	*Burlington*
Fred Jay Kimball,	C. E	*Nashua, N. H.*
William Edgar Maxham,	C. E	*Bethel*
William Clayton Newell,	C. E	*Doylestown, Pa.*
Martin LeRoy Rumrill,	C. E	*Randolph*
James Baldwin Swett,	C. E	*Southern Pines, N. C.*
Willie Amos Tower,	C. E	*Barton*

SPECIAL STUDENTS.

Not candidates for a Degree.

Earl Lord Bean ..... *Northfield*
Harry Fitzgerald Causebrook ..... *Island Pond*
Daniel Holland ..... *Northfield*
Stanley Doyton Nichols ..... *Roxbury*

GRADUATES OF THE LAST TWENTY-FIVE YEARS.

1878.

Charles Horace Spooner, B. S., A. M., Maj. V. N. G.; Prof. of Mathematics and Commandant Vermont Academy; teacher Fitchburg, (Mass.) public schools; Prof. Mathematics Manual Training School,
St. Louis, Mo.

1879.

Eugene Merwin Carr, B. S., L. L. B., Brig. Gen. in command of Washington National Guard; lawyer; promoter.....*Seattle, Wash.*
John Benjamin Johnson, C. E., A. M.; Prof. Civil Eng., N. U. 1879-1901; Alumni Sec.....*Pasadena, Cal.*

1880.

Edward McClure Peters, (Lieut. U. S. Navy, Spanish American War), with Chemical Tartar Co .....*Brooklyn, N. Y.*

1881.

Frank Winslow Conn, (C. E.) Civil Engineer and Mine Superintendent,
Miramar, Costa Rica, S. A.
Henry Martin Jones, Manufacturer.....*Kingston, Mass.*
Charles Wright Mead, (C. E.) 1st Lieut., 1st Mont. Vols. Spanish American War; Capt. U. S. Vols. Spanish American War; City Engineer Manila, 1901-1902; Civil Engineer.....*Manila, P. I.*
Marshal Davis Smith, in business and Town Representative..*Northfield, Vt.*
William Howard Willmarth, in business.....*No. Attleboro, Mass.*

1882.

George Taft Hobbs, Civil Engineer.....*Uxbridge, Mass.*
Malverd Abijah Howe, (M. S.) (C. E.); Prof. Civil Engineering, Rose Polytechnic Inst.....*Terre Haute, Ind.*
Fred Elton Steele, (M. D.); Physician, Member Board of Visitors N. U.,
Gaysville, Vt.

1883.

James Michael Holland, lawyer.....*New York City*
Wilbur Clark Howe, Freight Agent, B. & M. R. R.....*Nashua, N. H.*
George Roberts Miner, (M. S.); Editor *New York Herald*,
Paris Edition; Sunday Editor *N. Y. World*.....*New York City*

Calvert King Mellen, M. S., A. M., (1st Lieut. N. Y. N. G.); Prof. Mathematics Central High School..... *Buffalo, N. Y.*
Thomas Henry Nickerson, (M. E.); Merchant..... *Athens, Ga.*
Fred Silas Parker, Lawyer and Mayor..... *West Superior, Wis.*
Ned Louis Sheldon, (M. S., A. M.); Sec. Sons of Vt. Ass'n, Lawyer, *Boston, Mass.*

1885.

Fred Rice Belknap, M. D., M. S., Mem. State Board of Health, Physician, *Benton Harbor, Mich.*
Myron Lemuel Chandler, M. D., A. M., Physician..... *Barre, Vt.*
Henry Blanchard Hersey, (Maj. 1st Vol. Cavalry "Rough Riders"); Inspector U. S. Weather Bureau Service..... *Louisville, Ky.*

1886.

Charles Herman Cheney, (C. E.); Civil Engineer, Cheney Bros., *Manchester, Conn.*
Charles Henry Nichols, (M. C. E.); 1st Ass't Chief Engineer Post and Macord Bridge Co..... *New York City*
Earl Henry Prince, in business..... *Chicago, Ill.*
Phil Sheridan Randall, (M. S.); County Judge..... *Ellendale, No Dakota*

1887.

Charles Edwin Austin, (D. D. S.); Dentist..... *Chicago, Ill.*
Ernest Victor Booth, Civil Engineer..... *Worcester, Mass.*
Walter Edwin Hassam, (C. E., M. S.); Capt. 2d Mass. N. G. 1893-98, Ass't City Engineer..... *Worcester, Mass.*

1888.

Fred Thaddeus Austin, (M. S., C. E.); *1st Lieut. Artillery Corps, U. S. A.*, Adj. 5th Mass. Vols. Spanish American War.....
Harry Hale Goss, Civil Engineer..... *Taunton, Mass.*
Fred Farnham Hayward, Salesman Prescott Piano Co..... *Concord, N. H.*
Luther Burnham Johnson, (M. S.); Editor *Randolph Herald*..*Randolph, Vt.*
William Alden Shaw, (M. S.); U. S. Weather Bureau Observer, *Northfield, Vt.*

1889.

Fred Howe Clark, (C. E.); Ass't City Engineer..... *Worcester, Mass.*
George Herbert Cobleigh, Manufacturer..... *So. Northfield, Vt.*
Herbert Nelson Cross, Lawyer..... *Springfield, Mass.*
Elbridge Wheeler Gilman, Merchant..... *Marshfield, Vt.*
Robert Lisbon Irish, (A. M., M. D.); Physician..... *New York City*
Elmer Roland Juckett, (M. S.); County Judge.. *Hot Springs, So. Dakota*
*Fred Elsworth Lamb, (C. E.), Civil Engineer..... *Boston, Mass.*
Willis Ethel Terrill, (M. S,); Druggist..... *Montpelier*
Aurin Ralph Shaw, (A. M., D. D. O.); Dentist.... *Rio de Janeiro, Brazil*
Seth Wright Prior, (C. E., M. S.) Lieut, 2d Mass. N. G. 1895-97, Street Commissioner..... *Worcester, Mass.*

1890.

Charles Frederick Parker, Civil Engineer..... *Woonsocket, R. I.*
Charles Edwin Collins, Civil Engineer, firm Collins & Collins, *Philadelphia, Penn.*
Seth Burton Adams, Boiler Inspector..... *Hartford, Conn.*
Dexter Wadleigh Lewis, Clerk..... *Boston, Mass.*
Herman Dressel, Jr., County Examiner, Prin. High School, *Springfield, Vt.*
Homer John Dane, Pharmacist..... *Northfield, Vt.*
Ira Rich Mower, representing Parke, Davis & Co., in..... *Atlanta, Ga.*
John Huntoon Judkins, M. S., M. D., Physician..... *Northfield, Vt.*

1891.

George Franklin Abbott, Civil Engineer, Boston Elevated R. R.... *Boston*
*The Rev. Alfred Frederick Booth, Universalist Clergyman.... *St. Albans*
Edward Aiken Shuttleworth..... *Capt. 27th Inf., U. S. A.*
William Hibbard Sprague, Merchant..... *East Brookfield, Vt.*
Harry Gordon Woodruff, Bank Cashier..... *Barre, Vt.*
Ethan Allen Shaw, Professor..... *Norwich University*
Carl Gilman Dole, P. O. Department..... *Washington, D. C.*
Heber Calvin Cady, Treasurer..... *Northfield Savings Bank*
Burton Wiley Farnham, Civil Engineer, N. Y. Rapid Transit Commission.
Fred Miner Goodhue, Civil Engineer..... *Lawrence, Mass.*
Percy Gates Smith, Ass't City Engineer ..... *Worcester, Mass.*
Clarence Bonnett Riggs, Civil Engineer, N. Y. Rapid Transit Commission.

*Deceased.

Ephraim Wesson Clark, Civil Engineer, Boston Elevated Railway... *Boston*
Joseph Spafford Craigue, Civil Engineer, with E. Worthington,
Needham, Mass.
Charles John Clement Evans, Civil Engineer, with Post & McCord,
New York City
Charles Warner Pierce, Editor of *The Herald*..... *Northampton, Mass.*
Robert Henry Perse Ford, Assistant Chief Engineer of
Central Vermont R. R.
Edmund Henry Ryan, Civil Engineer & Lawyer..... *Monticello, Utah*
Dewitt Clinton Webb, Civil Engineer, with H. S. Adams..... *Boston*
Benjamin Whitney Gleason, M. D., Physician..... *Somerville, Mass.*

1893.

George Leslie Andrews, Pharmacist..... *Pasadena, Cal.*
Edward Cushman Bennett, Attorney at Law, Executive
Clerk to the Governor of Vermont..... *No. Bennington, Vt.*
Eben Watson Gaynor, Dentist..... *Boston*
Frank Albert Gokey, in business at..... *Everett, Mass.*
Frank Dudley Holbrook, Civil Engineer, with U. S. Engineer Corps.. *Boston*
Wilbur Edson Hurlburt, Lawyer..... *Oshkosh, Wis.*
Frank Alden Manuel, Manufacturer. ..... *Richford, Vt.*
Hiram Nathaniel Mattison, Cashier National Bank, Town Representative..... *Chelsea, Vt.*
Oren Luther Pease, Pharmacist..... *Hartford, Conn.*

1894.

Leo Bertram Clogston, Civil Engineer, Boston Elevated Railway... *Boston*
Ernest Willard Gibson, Attorney at Law (1st Lt. V. N. G.).... *Brattleboro*
Harvey Levi Hinman, in business at..... *Coös, N. H.*
Howard Clinton Holden, Civil Engineer, with Massachusetts Highway Commission.
Leroy Chittenden Hulburd, Civil Engineer..... *Brashar Falls, N. Y.*
James Ernest Ross, Insurance Surveyor, Sanborn Perris Map Co.,
New York City
Raymond Underwood Smith, Attorney at Law..... *Wells River, Vt.*
*George Eber Storrs, Principal High School..... *Bethel, Vt.*
Hal Holmes Stearns, Insurance Surveyor, Sanborn Perris Map Co.,
New York City
*Harlan Badger Wasson, Asst. Engineer, with Metropolitan Water Com-

1895.

Edgar Fletcher Carruthers, Inspector Barber Asphalt Paving Co., *New York City*

Charles Horace Davis, Civil Engineer, with A. W. Woods, *Worcester, Mass.*

Fred Carnot Davis, Asst. Engineer Metropolitan Water Commission, *Clinton, Mass.*

Frank James Donahue, Insurance Surveyor, Sanborn Perris Map Co., *New York City*

Ray Storrs Dowe, Railway Mail Service.....

Walter George Huntley, Dentist.....*Northfield*

Philo Remington Hoefler, with Hoefler Bros.....*Denver, Col.*

Harry Chester Mosely, in business.....*Northfield*

Bert Henry Prior, Civil Engineer.....*Worcester, Mass.*

Michael John Ryan, Asst. Engineer Boston Elevated Railway.....*Boston*

Fred Barnes Thomas, Lawyer (2nd Lt. V. N. G,).....*Montpelier, Vt.*

Samuel Adrian Thomas, Insurance Surveyor, Sanborn Perris Map Co., *New York City*

Dean Clyde Warren, Ass't. Engineer, Metropolitan Water Commission, *Cambridge, Mass.*

1896.

Arthur Gilbert Andrews, A. M., LL. M. Attorney at Law...*New York City*

James Leland Averill, C. E., American Bridge Company...*New York City*

George Horace Briggs, Ass't Engineer Metropolitan Water Supply Commission.....*Clinton, Mass*

Charles Sargent Carleton, (Capt. 1st Me. Vols.) Prof. Field Engineering, *Norwich University*

Herbert Sawyer Clark, Ass't Street Commissioner.....*Worcester, Mass.*

John Leslie Collins, Civil Engineer, Collins & Collins....*Philadelphia, Pa.*

Harry Ray Cole, with Pike Mfg. Co.,.....*Pike's Station, N. H.*

Phil Sheridan Howes with Nat'l Life Ins. Co.....*Montpelier*

Edward Michael McCarty, Clerk .....*Boston*

Charles Albert Plumley, Law and Insurance (Capt. V. N. G.) Ass't Clerk Vt. House of Representatives.....*Northfield*

Carroll John Scribner, Engineer Bridge Department....*with C. V. R. R.*

Leon Anson Skinner, in business.....*So. Royalton*

Herbert Eugene Caswell, Principal of Schools.....*Georgia, Vermont*

Winfred Ballard Carr ..... *1st. Lieut. Artillery Corps, U. S. A.*
Henry Vail Dunham, Chief Chemist, Caseine Co. of America, European Representative ..... *Rotterdam, Holland*
William Arba Ellis, A. M. Librarian ..... *Norwich University*
*William Clarence Spafford ..... *No. Bennington*
Donald William Sutherland, Civil Engineer ..... *Lennoxville, P. Q.*
Charles Ernest Walker, (1st. Lieut. U. S. Vol. Signal Corps), Chemist Oxford Paper Co. ..... *Rumford Falls, Me.*

1898.

Edwin Booth, Bank Clerk ..... *Morrisville*
Lewis Charles Bump, Manufacturer ..... *Brandon*
James Wilber Cook, Western Electric Co. ..... *New York*
Frank Winslow Denison, Ass't. Engineer ..... *Rutland-Canadian, R. R.*
Paul Addison Dinsmoor, Lawyer ..... *Lawrence, Ka.*
Charles Edward Duggan, Civil Engineer ..... *Albany, N. Y.*
The Rev. George Harold Ellis, M. A., Principal High School, *Rutland, Mass.*
Leonard Joel Parker, Inspector N. Y. Central R. R. ..... *Albany, N. Y.*
George Everett Talbot, Civil Engineer ..... *New York City*
Arthur Ellsworth Winslow, Professor Mathematics and Civil Engineering, *Norwich University.*

1899.

Frank Leroy Aldrich, Ass't. Eng. Metropolitan Water Commission, *Waltham, Mass.*
Hezekiah Kibbe Brooks, Chemist Caseine Co. of America .... *Bellows Falls*
Charles Horace Eaton, Assistant Engineer, Guayaquil & Quito R. R., *Equador, So. A.*
George Prentice Lovell, Inspector Boston & Albany R. R. ..... *Boston*
John Pool Moseley, Insurance Surveyor, Sanborn Perris Map Co., *New York City*
Fred Aldrich Webster, D. O., Physician ..... *New York City*

1900.

Sanford Harris Ashley, Ass't Engineer, Chicago, Milwaukee & St. Paul R. R. ..... *Chicago, Ill.*
Richard George Rich, Insurance ..... *South Manchester, Conn.*
Jeffers Foster Richardson, Commission House ..... *New York City*
Harold Samuel Richmond, American Bridge Co. ..... *Berlin, Conn.*
Berton William Sibley ..... *2nd Lieutenant, U. S. Marine Corps*

* Deceased. Member 1st Vt. Vols.

1901.

Fred Thomson Bass, American Bridge Co.....*Flushing, L. I.*
Dean Orris Carr, with Pennsylvania R. R.....*Oil City, Pa.*
Harry Guy Clark, Civil Engineer.....*Saratoga Springs, N. Y.*
Irving Clendenen Ellis, Ellis's Granite Works.....*Northfield, Vt.*
Carl Danforth Hazen, Boston & Albany R. R.....*Boston*
Leonard Melvin Newton, Boston & Albany R. R.....*Boston*
William Everett Robertson, Chemist Chilton Paint Works,
College Point, L. I.
Charles Edward Wheatley.....*2d Lieut. Artillery Corps, U. S. A.*

1902.

Leon Frank Booth, in business.....*Morrisville*
Frank Henry Burr.....*2d Lt. 3d Infantry, U. S. Army*
Henry Albert Chase, Post Graduate Student and Instructor,
Norwich University
Willard Lynn Fuller, with Chicago & So. Eastern R. R.....*Anderson, Ia.*
Harry Mansur Hobson. with Pennsylvania R. R.....*Pittsburg, Pa.*
Timothy Holland, with Sanborn Perris Map Co.....*New York City*
Robert Truman Phinney.....*2d Lt. 12th Infantry, U. S. Army*
John Theodore Smith, with Pennsylvania R. R. .....*Pittsburg, Pa.*
Laurence Bernard Stebbins, with A. W. Woods.....*Worcester, Mass.*
Frank Strong, with Pennsylvania R. R.....*Pittsburg, Pa.*
Guy Henry Watson, Ass't Engineer Boston & Albany R. R..*Boston, Mass.*

N. B.—For graduates before 1878, see History of Norwich University compiled by William Arba Ellis, '97.

Graduates are requested to report changes of address when made.

Partial List of Roads upon which Graduates and Past Cadets of Norwich University have been employed as Consulting, Constructing, Chief, Assistant or Division Engineers:

Albany Northern,
American Central,
Arequipa & Puno (Peru),
Auburn & Syracuse,
Baltimore & Ohio,
Boston & Lowell,
Boston & Providence,
Boston & Worcester,
Burlington and Missouri,
Camden & Atlantic,
Cincinnati Western,
California & Texas,
Cayuga & Susquehanna,
Central Vermont,
Central Military Tract,
Chicago & Alton,
Chicago & Danville,
Chicago & Northwestern,
Cincinnati, Peru & Chicago,
Cleveland & Pittsburg,
Columbus, Piqua & Indiana,
Connecticut & Passumpsic,
Connecticut Valley,
Corpus Christi, San Diego & Rio Grande,
Dallas & Wichita,
Delaware & Western,
Denver & Gulf,
Denver Pacific,
Denver, Texas & Fort Worth,
Des Moines & Northern,
Des Moines & Northwestern,
Drummond Co. (Quebec),
Elkhorn,
Everett & Monte Cristo,
Fitchburg,
Fort Wayne & Chicago,
Fort Worth & Denver City,
Gilman, Clinton & Springfield,
Grand Rapids & Lake Shore,
Hartford & Springfield,
Hoosac Tunnel & Saratoga,
Housatonic,
Houston & Texas Central,
Houston, East and West Texas,
Hudson River,
Huntington & Broad Top,
Illinois & Wisconsin,
Illinois Central,
Indianapolis, Peru & Chicago,
International & Great Northern, (Texas),
Iona & Lansing,
Jeffersonville,
Junction City & Fort Kearney,
Kansas Central,
Kansas City & Southern,
Kansas City, Emporia & Southern,
Kansas City, Memphis & Mobile,
Kansas City Street Railway,
Kansas Pacific,
Lackawanna & Bloomsburg,
Lake Ontario Shore,
Leavenworth, Lawrence & Fort Gibson,
Lee & Hudson,
Mahoney & Susquehanna,
Manchester & Keene,
Mansfield, Coldwater & Lake Michigan,
Marietta & Cincinnati,
Marion & McPherson,
Massachusetts Central,
Memphis & Charleston,
Memphis & La Grange,
Mexican International,

Mexican National,
Mexican Southern,
Milwaukee & Lake Winnebago,
Milwaukee & Mississippi,
Milwaukee & Watertown,
Minneapolis & Duluth,
Mineral Belt,
Minneapolis & Northwestern,
Minneapolis & St. Cloud,
Mississippi & Missouri,
Missouri, Kansas & Texas,
Mobile & Ohio,
Monterey & Mexican Gulf,
Montpelier & Wells River,
Mount Washington,
Nashville & Decatur,
New Jersey Central,
New Orleans & Pacific,
Oregon Short Line,
Penn Yan, Keuka Park & Branchport,
Peoria Branch, Rock Island,
Peoria & Burlington,
Peoria & Oquawka,
Pittsburgh, Fort Wayne & Chicago,
Pittsfield & North Adams,
Plattsburgh & Montreal,
Pueblo and Arkansas Valley,
Pueblo & Salt Lake,
Racine & Mississippi,
Rock River Valley Union,
Rutland,
Rutland & Burlington,
St. Croix & Lake Superior,
St. Louis, Kansas City & Northern,
St. Paul & Chicago,
St. Antonio & Mexican Gulf,
San Francisco (Missouri),
Saratoga & Whitehall,
Sedalia, Warsaw & Southern,
Shepaug Valley,
Southern Minnesota,
Sugar River,
Sullivan,
Sunbury & Erie,
Suncook Valley,
Texas Pacific,
Toledo, Oscaloosa & Western,
Transia, (Mexico)
Union Pacific,
Utica & Oswego,
Utica & Schenactady,
Vermont & Canada,
Vermont Central,
Vicksburg & Meridian,
Wabash,
Waterbury & Stowe,
West End, (Boston),
Whitehall & Plattsburg,
Wilmington & Reading,

and some 50,000 miles of preliminary surveys in addition.

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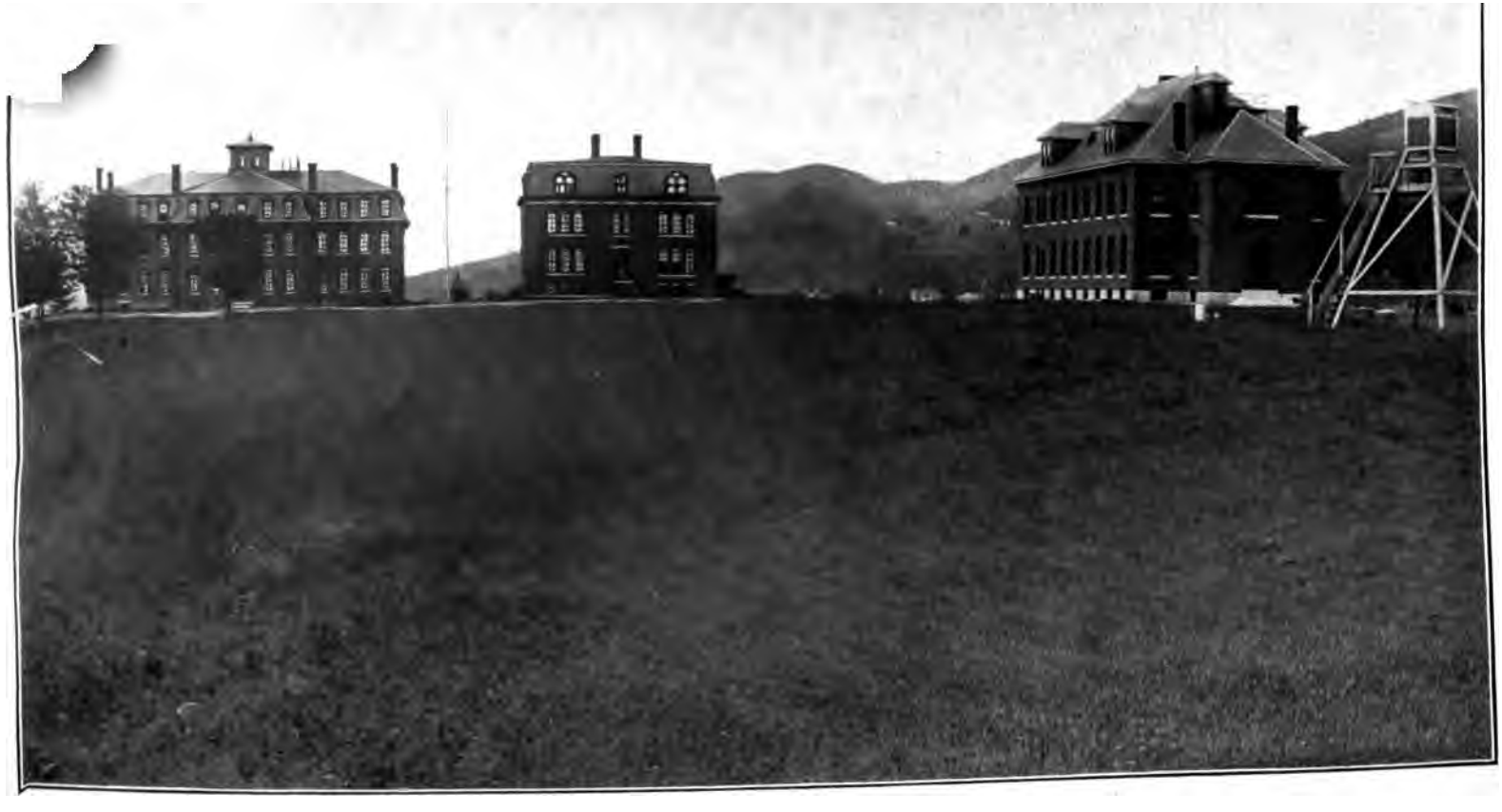
APR 28 '04



THE BUILDINGS FROM THE SOUTH.

CATALOGUE

OF

Norwich University

THE MILITARY COLLEGE

OF

THE STATE OF VERMONT

1904.

EIGHTY-FIFTH ACADEMIC YEAR

CATALOGUE

OF

Norwich University,

THE MILITARY COLLEGE

OF

THE STATE OF VERMONT.

1904.

EIGHTY-FIFTH ACADEMIC YEAR.

MONTPELIER, VT.
ARGUS AND PATRIOT PRESS.
1903.

February 19-20– Fraternity
February 22, Monday Was
March 19-22 Term Examin
March 22, Tuesday Term e

SPRING TERM, 1904.

April 5, Tuesday Term beg
May 1, Sunday Dewey Day
May 30, Monday Memorial
May 31, Tuesday Senior E
June 3-10 Final Examinati
June 11-21 Annual Encamp
June 19 Baccalaureate Ser
June 20, Monday Austin R
June 21, Tuesday Prize Sp
June 22, Wednesday Annu
Alumni Exercise
June 23, Thursday Comme
June 24, Friday Entrance
a. m. Term en

SUMMER SCHOOL, 1904.

August 23, Tuesday 1st an
at 10:00 a. m.
September 6, Tuesday 3r
10:00 a. m.

FALL TERM, 1904.

September 20, Tuesday E
Hall, 10:00 a. m.

CORPORATION.

President,

* THE REV. ALLAN D. BROWN, LL. D.,
Commander U. S. Navy. (*Retired.*)

Vice-President,

CHARLES DOLE, M. A.

Secretary,

WILLIAM A. SHAW, M. S.

Treasurer,

ETHAN A. SHAW, C. E. M. A.

Marshal,

MAJOR FRANK L. HOWE, V. N. G.

---

*Resigned : to take effect January 1st, 1904.

EDWIN PORTER, M. D. M. A.....
WALDO P. CLEMENT, M. S.....
COL. FRED. E. SMITH.....
HON. WILLIAM B. MAYO, M. D.....
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MAJ. GEN. WILLIAM A. BANCROFT, I
PROF. CHARLES DOLE, M. A., (Vice-I

ALUMNI TR

ERNEST W. GIBSON, M. A., (t
HEBER C. CADY, C. E.,
BENJ. W. GLEASON, B. S., M. D., (

MILITARY STAFF.

HENRY W. HOVEY, Major 23rd Inf. U. S. A.
Commandant.

WILLIAM B. MAYO, M. D.,
Surgeon.

THE REV. WILLIAM S. HAZEN, D. D.
Chaplain.

JAMES EVANS,
Armorer.

BOARD OF VISITORS

appointed by the Governor, in pursuance of an act of the Legislature, approved November 29th, 1898, for the Biennial Term ending December 1st, 1904:

Hon. JOSEPH D. DENISON.....*Randolph*

NELSON D. PHELPS.....*Barre*

JOHN H. WALBRIDGE.....*Concord*

ALONZO B. VALENTINE.....*Bennington*

WALTER E. RANGER.....State Superintendent of Education, *ex-officio*.

FACULTY.

THE REV. ALLAN D. BROWN, LL. D.,
COMMANDER, U. S. NAVY, (RETIRED),
President.

JOHN B. JOHNSON, M. A., C. E.,
Professor Emeritus of Mathematics and Civil Engineering,
(With the rank of Lieut. Col.)

CHARLES C. BRILL, M. A.
Professor of Chemistry, Dean of the Faculty.
(With the rank of Major.)

HERBERT R. ROBERTS, M. A.,
Professor of Latin, Greek and English,
Secretary of the Faculty.
(With the rank of Major.)

HENRY W. HOVEY, Major 23rd Infantry, U. S. Army,
Professor of Military Science and Tactics.

ETHAN ALLEN SHAW, C. E.. M. A.,
Professor of Mathematics.
(With the rank of Captain.)

CHARLES S. CARLETON, C. E.,
Professor of Field Engineering and Drawing.
(With the rank of First Lieutenant.)

ARTHUR E. WINSLOW, C. E.,
Professor of Civil Engineering.
(With the rank of First Lieutenant.)

CARL V. WOODBURY, B. A.
Professor of Physics and German.
(With the rank of First Lieutenant.)

HENRY A. CHASE, B. S., *Instructor in Chemistry.*

THE HON. FRANK PLUMI

ERNEST W. GIBSON, M.
Cons

MAJ-GENERAL OLIVER O. H

WILLIAM A. SHAW, M. S
Observer U. S.

WILLIAM A. ELLIS, M. A
Librari

O. YEATON LEONAR

EDGAR SW

STANDING COMMITTEES.

The Dean is *ex-officio* a member of these committees.

1. ENTRANCE REQUIREMENTS AND EXAMINATIONS,

   PROFESSORS ROBERTS, SHAW AND WOODBURY.

2. AID TO UNDERGRADUATES,

   PROFESSOR SHAW AND LIBRARIAN ELLIS.

3. ACADEMIC STANDING AND DEGREES,

   PROFESSORS ROBERTS AND WINSLOW.

4. RECEPTION OF STUDENTS,

   PROFESSORS SHAW, CARLETON AND LIBRARIAN ELLIS.

5. LIBRARY, MUSEUM AND READING ROOM,

   LIBRARIAN ELLIS AND PROFESSORS ROBERTS AND WOODBURY.

6. SUMMER COURSES,

   PROFESSORS CARLETON AND WINSLOW.

7. ATHLETICS,

   PROFESSORS CARLETON AND WOODBURY.

8. SANITATION,

   MAJOR HOVEY AND PROFESSOR WINSLOW.

9. ALUMNI RELATIONS,

   PROFESSORS ROBERTS, CARLETON, WINSLOW AND LIBRARIAN ELLIS.

GENERAL COMMENCEMENT COMMITTEE.

THE PRESIDENT, TRUSTEES HOWE AND CADY, PROFESSORS BRILL AND ROBERTS.

GENERAL ATHLETIC DIRECTORS.

PROFESSOR WOODBURY,—Alumni, W. E. TERRILL, '89, H. C. CADY, '91, F. B. THOMAS, '95.

WAS founded at Norwich, Vermont, in 1819, by CAPTAIN ALDEN PARTRIDGE, and was known as the American Literary, Scientific and Military Academy, being the pioneer *Engineering School* of the country, antedating all others by at least eight years. It retained the name until November, 1834, when a charter of incorporation was granted it by the State of Vermont, under the name of NORWICH UNIVERSITY, which thus became the *first* SCIENTIFIC AND CLASSICAL, as well as the first MILITARY, Collegiate Institution in the United States. Its success was immediate, and every State in the Union had, in its early days, representatives among its students.

In March, 1866, the buildings at Norwich were destroyed by fire, and the University was removed to Northfield, Vt., where the citizens had offered fine grounds and commodious barracks.

It is a characteristic and peculiar feature of the institution that, in addition to the usual collegiate courses, the charter requires "a course of military instruction, both theoretical and practical." For this reason, the discipline is, of necessity, military in form and principle, being modeled after that of the National Military Academy at West Point, of which Captain Partridge was, at one time, the Superintendent: and from its foundation to the present time it has held the distinction of being the foremost military institution in the land, West Point and Annapolis alone excepted. Her sons have done yeoman service in both army and navy: from her founder, Captain Partridge, and her second President, Truman B. Ransom, who resigned his chair to lead the 9th New England in the Mexican War (falling at the head of his regiment at the assault of Chapultepec, in September, 1847), through a long line of distinguished men in the Civil and Spanish Wars, until today, when her graduates are still to be found in both the services.

The late General William Tecumseh Sherman said of the University: "This military school at one time almost rivaled the National Academy at West Point, and there many a man,

who afterward became famous in the Mexican and Civil Wars, first drank in the inspirations of patriotism and learned the lessons of the art of war."

To the discipline and instruction received at this institution is due the reputation acquired by many of the New England (and other) regiments; and the "Green Mountain Boys" (whose record in the Civil War is second to none) owe their success and renown, largely, to the training received within her halls. The Honor Roll of the Civil War numbers over 500 officers. The names of the most prominent generals are—G. M. Dodge, T. E. G. Ransom, R. H. Milroy, Joseph A. Mower, Edward A. Hatch, Truman Seymour, F. W. Lander, Seth Williams, G. P. Buell, H. S. Burton, P. V. Hagner, 14 colonels and brevet brig. generals, 35 colonels, 34 lieut. colonels, 34 majors, 155 captains, and a large number of commissioned officers of lower rank, making 467 in all. Among the prominent naval officers are—Rear Admirals Paulding, Boggs, Craven; Commodores Carpenter, Tattnal, Whiting, Graham; Captains Ward, Glynn, Hartstene and Colvocoresses; Lieut.-Commander Dewey, and many other officers of lower rank, making over 50 in all.

More than fifty of her Past Cadets seved in the late war with Spain, chief among them being ADMIRAL DEWEY, the Victor of Manila, Brig.-Gen'l Williston, Col. Edmund Rice (of whom General Miles has said that "he had the best regiment in the Army of the Potomac"), Captain Converse and Commander Colvocoresses of the Navy, and others of less rank in both branches of the service. A number of her Past Cadets are serving in both the Army and Navy on the active list; with the increased demand for officers of the Army which West Point is unable to supply, there is no reason why young men inclined to Army life should not prepare themselves for it, with as much certainty of success as in any other profession; and no better preparation can be found for obtaining a commission either by direct appointment from the several states, or through the ranks, than the courses offered here. *

COMMISSIONS IN THE ARMY.

*Three members of class of 1903 have been given Commissions. Lieut. A. R. Williams in the Army and Lieuts. Seth Williams and R. B. Farquharson in the Marine Corps.

It has always been, and still is, the highest endeavor of the Trustees and the Faculty to maintain, in every respect, the high military character of the University, bearing in mind the fact that the aim of any scholastic institution should be not merely to graduate scholars, but to make men. To this end special attention is paid, not only to drill in the manual of arms, the execution of tactical movements and the necessary routine of a post, but also to the development of honor, truth, candor, self-respect and loyalty. While the discipline is strict, it is not severe, the government being largely by privileges rather than by restrictions ; the student being taught to do the right thing at the right time and in the right way. That discipline of this sort fits men not merely for military, but also for civil life, is shown by the success of Past Cadets in the clerical, legal, medical, engineering, journalistic and other professions. Some of the best of our railway engineering (such as that of the Union Pacific, Northern Pacific, Denver & Rio Grande, Mexican Central, Northwestern, Great Northern, and many of the roads in Central and South America) has been done in whole or in large part, by men who have been students at this institution, and many of her graduates are to be found to-day in places of trust and responsibility.

The State of Vermont has acknowledged the University by recognizing her as The Military College of the State, by the appointment of a Board of Visitors and by making her Corps of Cadets a part of the State National Guard, under the title of "The Norwich Cadets," in which each member is regularly enlisted. The State thus places a high valuation upon the institution as a training school for the citizen soldier, and attests its gratitude for services already rendered. For like reasons, the United States Government has detailed an officer from the active list of the Army for duty as Professor of Military Science and Tactics, and sends an inspecting officer yearly, to note the condition of the discipline and drill.

That these inspectors find a satisfactory state of affairs is shown by their reports.

The Inspector for 1893 said:

> "Although the numbers are small, it is due the institution to say that in its military system, discipline and in-

struction, *it stands at the head of all the colleges in this inspection.*"

The Inspector for 1896 said:

"The appearance, bearing, steadiness and behavior were excellent. * * * I was favorably impressed with the condition of the military department."

The Inspector for 1897 said;

"An inspector finds himself out of place here, except in so far as his commendation may be of some use. Parents who are in search of some institution where self-control and self-discipline (all important factors in future success) are made prominent features, and receive special attention in the education, might do well to visit Norwich University."

"The system of discipline inaugurated by Captain Partridge in 1819 is still in force here, and is only modified to suit the higher condition of cultivation of the student. The discipline is still as strong, and the cadet is under a strict military regime every day and every hour that he spends at the University. He is marched to his meals, to prayers, to classroom and to church. He is taught to be neat in his person, regular in habits, and methodical in work."

The Inspector for 1901 said:

"The military appearance of the cadets was very good, and *the inspection was satisfactory throughout.*"

The State Inspector (an officer of the army detailed for service with the Vermont National Guard), also makes a yearly visit and reports to the Governor. In 1896 this officer said:

"These students are able to execute every movement in infantry drill regulations, and, as far as possible without horses, artillery movements, with a correctness and precision not to be expected of any other body of troops in the State."

In 1899 this officer said:

"The entire drill was excellent. Discipline, apparently excellent. The camp was perfectly clean and well kept; the uniform is neat and appropriate and the young men were enthusiastic in their military duties."

In 1903 the Inspector said:

FORT ETHAN ALLEN, VERMONT,
May 20, 1903.

"To the Inspector General Department of the East, Governors Island, New York Harbor.

Sir: In compliance with the instructions contained in your letter of the 7th instant, I have the honor to submit the following report of an inspection made (per s. o. 103 c. s. Hdqr. of the East) of the Norwich University of Northfield, Vt.

I found the Military Professor, Captain H. W. Hovey, 24th Infantry, eminently suited to his position, see Efficiency report herewith.

The attitude of the College authorities toward the Military department leaves nothing to be desired: the President is a retired Commander in the Navy.

The appearance and bearing of the Cadets at the review and inspection, and also out of ranks, gave evidence of a high soldierly feeling, an esprit de corps, and a discipline that was highly creditable to the cadets themselves as well as to their Superiors.

The uniforms were neat, well fitting, and well cared for; every collar was of uniform shape, hair was neatly cut, gloves and shoes clean.

The Arms were in perfect condition, as also the equipments; the leather highly polished, and brasses bright; all cared for by the cadet.

There were but two absentees from the drill, one with an arm injured at base ball, and one, the Cadet Major, who was in Washington undergoing an examination for a Commission in the Marine Corps.

The drill included the battalion drill in close and extended order, the manual, setting up drill, and Butts calisthenic exercise with the rifle, also bayonet exercise; it was all given, under the command of the Cadet Officers, with a snap and precision that would have been creditable to any organization, and up to the standard of an exhibition drill. The Officers and N. C. Officers showed that they understood their duties, and were in the habit of performing them; and the privates gave attention and prompt obedience.

The Cadets, with the exception of three only, live in barracks (two in a room), and care for their own rooms; they are marched to recitations and to meals; they are confined to their rooms at study hours, have a regular guard on duty in the barracks, with an Officer of the Day, and have their regular military roll calls.

At a fire drill which I witnessed, a line of buckets was formed and water thrown in 14 seconds, while in less than two minutes, all the cadets on the third floor, some 25, had slid down the two ropes provided at each end of the building, and had taken their places, with the water pails from their rooms, in the bucket line.

The discipline is firm, tempered by a rigid system by which privileges can be earned; the course is systematic and well laid out, and a full use is made of the limited facilities available. I invite attention to the three pamphlets enclosed,—the Catalogue, the Regulations, and the General and Standing Orders. Though the Corps numbers only 69 men, (the full number of the students attending the college) and though the buildings are not what they should be, an examination of these regulations and orders will show the Military spirit of the Institution.

The requirements of G. O. 94 are complied with as far as it has been possible with the limited equipment; for the details see the questions and answers of Captain Hovey herewith.

If it be thought that the tone of this report is enthusiastic, that is as I intend it. I consider that this little college with its small numbers and resources, is giving an im-

mense return to the government for the use of its Cadet rifles and the services of Captain Hovey as Professor, and gives evidence of a military pride and ambition that will repay cultivation.

If it were possible to do something for this school as a mark of appreciation it would be productive of much good; the issue to it of breech loading mountain guns, or of the magazine Springfield rifle, 'Krag' (with 26-in. barrel as made experimentally recently) would certainly be appreciated, and if it can be aided in any other way, the effect will doubtless be to increase the size and scope of the school.

In view of what I have seen at this institution I have the honor to invite especial attention to the names of the three students who may be mentioned this year as most distinguished in the military department, as they should be well equipped in training as well as in knowledge.

Captain Hovey is to be congratulated upon the results of his efforts and should receive any assistance that can properly be given him.

Very respectfully,

F. S. Foltz,
Captain 2d Cavalry,
Special Inspector.

By her work for more than three-quarters of a century, Norwich University merits the confidence and generous support of the general public.

THE Board of Visitors to Norwich University appointed for the biennial term in accordance with the provisions of Act No. 33 of the laws of 1898, herewith submit to Your Excellency the following report:

The Board have visited and made inspection of the University and all things pertaining to it at various times during the biennial term and the results of their observations are hereinafter reported under the following separate headings.

ENROLLMENT.

For the year ending June, 1900, there was a total enrollment of seventy-nine cadets, of which seventy were on the rolls at the end of the year.

For the year ending 1901 the total enrollment was seventy-eight of which seventy-two were on the rolls at the end of the year.

At the time of Commencement, June, 1902, there were on the rolls the same number as the year before, namely seventy-two.

There have already entered in the Freshman class for the coming year, twenty-four.

The cadet corps is divided into two companies, commanded by a cadet Major and officered by cadets promoted upon the basis of Academic and Military standing.

MILITARY INSTRUCTION, ARMAMENT AND EQUIPMENT.

The instruction in military science and tactics is thorough and systematic.

The Freshmen when they enter are often awkward and show imperfect physical development. They are first put through "setting up" drill, after which they are instructed in the manual

of arms, and company formations and evolutions, which is kept up during the full course of four years.

The Board have watched with much interest and pleasure the development of the undisciplined freshman, often with poor physique, into a robust appearing man, standing erect with easy poise and military bearing.

This system of physical culture, together with regular habits, makes the cadets uniformly healthful, and lays a sure foundation for future health and strength without which mental requirements are at a marked disadvantage.

Besides, the knowledge of military science is a splendid achievement for the individual, and a source of strength to the State; for the senior classes are competent to officer a regiment and instruct it in all matters pertaining to military organization.

The corps is also drilled in artillery practice, but from necessity are obliged to use the heavy and obsolete 12-lb. brass pieces. The muskets used are the Springfield rifles. While these guns answer the purpose of drill, yet to obtain the best results in military instruction and target practice, these should be replaced by the modern Krag, and the field pieces now in use should be replaced by two 3-inch breech loading rifled guns for artillery practice.

A request for the Krag and for the 3-inch breech loading artillery pieces has been refused by the War department on the ground that they were not making further distribution of arms to colleges.

We hope, however, and have reason to expect that during the coming year this improvement in the ordinance of the University will be accomplished.

For ten days each year, just prior to Commencement, the corps go into camp on the parade ground and are there instructed in all the various duties of camp life, the same as the State Militia are at the annual muster.

For the past few years, while the office of Commandant and Military Instructor has been very creditably filled, yet the University has needed a Regular Army officer to give it the military standing to which it is entitled.

We are very glad to be able to report that the War Department has now detailed Captain H. W. Hovey, of the Regular

Army, as Commandant and Military Instructor to th
sity, and that he has already entered upon his duties

INSTRUCTION AND DISCIPLINE.

In the Academic department, there are four separa
of instruction, namely: Civil Engineering, Arts, C
Science and Literature.

By far the greater number of students pursue the
Civil Engineering, it being a fact that Mathematics
tary Science have common attractions for students,
realize the fact that the combination of these two ma
complete and satisfactory education.

Yet we are of the opinion that so far as possible
should be secured to enter some of the other courses,
the course in Science and Literature; for with a com
limited field from which to obtain students it seems
that the enrollment could be more easily increased w
two courses to offer equal inducements to prospective

We find that the Academic instruction is thorough
in addition to the regular course, a summer school in
gineering is held for special practical work in that de

We are pleased, also, to note that, beginning with
ent school year, a professor of field engineering will
cial practical work in that branch as a part of the reg
throughout the year, thereby much increasing the effi
the Mathematical and Engineering departments.

The discipline of the University is military. The
the past been more or less hazing of freshmen during
few weeks of the fall term, thus aping the custom
cently in vogue at West Point.

This shameful and brutalizing practice has been e
during the past year, the several classes voluntarily
themselves to discontinue and discountenance all hazi
future.

We are especially glad to report this change for the
the University, for all such practices are a discredit
the college and to the students who practice it, and
dulged in by a State institution, it becomes a discred
State itself. A stop has been put to this custom at W

through pressure from the National Government, and parents in Vermont may not hesitate to send their boys to our State Military College on that account, for hazing is now abolished at Norwich University.

IMPROVEMENTS.

Under the head of improvements, we wish first to note the completion, during the past year, of Dewey Hall, which has been erected near the Barracks and Dodge Hall.

The Barracks is now used exclusively as a dormitory, Dodge Hall as a recitation building, and Dewey Hall is to be the Administrative building. Its dimensions are 46x84 feet with a stage extension 12x24. The building is a creditable memorial to the hero of Manila Bay.

It contains, besides the administrative offices, an assembly hall, library and rooms for the U. S. weather bureau, which is stationed here. It was much needed, and is much appreciated by all the friends of the University.

We call attention also, to the gift to the University of the library of Archæology of the late Orlando Dana Miller, of South Merrimack, N. H. This is a large and valuable addition to the college library. Also an important gift of books from the estate of the late Dr. P. D. Bradford, of Northfield, and another from Mrs. Cushman, consisting of the historical library of the noted Vermont historian Zadoc Thompson.

STATE APPROPRIATIONS AND EXPENDITURES.

We have examined the account of expenditures so far as it comes within our province, and find that the sum appropriated by the State has been expended for the purposes contemplated by the law authorizing such appropriation, proper vouchers being shown for all such expenditures.

In conclusion, we congratulate the State upon having, under the able management of President Allan D. Brown, such a creditable and efficient State Military College, which not only affords an opportunity for our young men to obtain a liberal college education, but at the same time educates them in Military Science, thus providing capable officers for future military

organizations, should occasion ever require: and we would recommend that by legislative enactment the graduates of Norwich University be commissioned as second Lieutenants in the State Militia, and placed on the eligible list for such appointments.

F. E. STEELE,
J. D. DENISON,
FREDERICK P. CARLETON,
H. W. MARVIN,
WALTER E. RANGER,
State Supt. of Education, ex-officio.

Board of Visitors.

To his Excellency,
JOHN G. McCULLOUGH,
Governor.

ADMISSION. Candidates for admission must be at least sixteen years of age, and must present satisfactory evidence of good moral character. Application blanks will be furnished by the President when requested. No person will be admitted who is less than five feet in height, or who is deformed, or afflicted with any disease or infirmity which would render him unfit for military duty, or who has at the time of presenting himself any disorder of an infectious or immoral character.

After matriculation and before enlistment, a physical examination is held by the surgeon, and this examination is repeated at intervals throughout the course. As a proof of the value of the physical exercises afforded by the military training, it may be stated that a recent Freshman class showed, within six months, an average increase in weight of 6.69 pounds; in chest expansion of .71 in.; in girth of thigh of 1.28 in.; in girth of calf of .47 in.; in girth of arm of .41 in,; and in girth of forearm of .37 in., in no case was there a decrease.

EXAMINATIONS FOR ADMISSION

are held in Dodge Hall on the Friday after Commencement and on the first day of the Fall Term, at 10 a. m. *All new cadets are required to report at the last mentioned time.*

All candidates are examined in the following subjects:

MATHEMATICS.

Arithmetic; Algebra to Quadratics; Plane Geometry.

ENGLISH LANGUAGE.

Grammar; Composition with special attention to punctuation and the use of capitals.

GEOGRAPHY.

Physical and political geography.

HISTORY.

History of the United States.

Those desiring to take the course in

SCIENCE AND LITERATURE,

are examined also in

LATIN:

Cæsar's "Commentaries," "four books, or Sallust's "Cataline;" Virgil's "Æneid," six books; Cicero, four orations.

Those desiring to take the course in

ARTS,

in addition to all the above, are examined in

GREEK:

Xenophon's "Anabasis," four books, or one hundred pages Goodwin's Greek Reader; Homer's "Iliad," two books.

ADMISSION BY CERTIFICATE. Graduates from approved High Schools or Academies may be admitted upon certificates. Candidates for advanced standing must pass satisfactory examinations in the studies already completed by the class which they propose to enter, as well as in those required for admission. Those, however, from other colleges should bring certificates of honorable dismissal, and marks showing standing. The latter may, on approval by the Faculty, be taken in lieu of examination. No student under sentence of suspension or expulsion from any other institution will be received. Students are considered as on probation for eight weeks.

COURSES OF INSTRUCTION.

THE MILITARY COURSE

is prescribed by the War Department and is obligatory for all students, proficiency therein being required as an essential to graduation.

The University is placed by the War Department in the highest class of institutions to which officers are detailed, and is the only collegiate institution in New England so classed, being thereby entitled to be styled THE WEST POINT OF NEW ENGLAND. The military curriculum is prescribed in General Order 64, Headquarters of the Army, as follows:

PRACTICAL.

- Infantry Drill through School of Battalion.
- Advance and rear guards and outposts.
- Marches.
- Battalion Review, Inspection, Parades.
- Guard Mounting, Escort of Colors.
- Target Practice.
- First Aid to injured.
- Artillery Drill.
- Mechanical Manœuvers.
- Aiming Drill and Target Practice.

THEORETICAL.

- Drill regulations to cover practical instruction.
- Manual of Guard Duty.
- Small Arms firing regulations.
- Articles of War, with special reference to certain selected articles.
- Records, enlistment, discharge papers, descriptive lists, morning reports, field and monthly returns, muster rolls, rosters, ration returns, requisitions, property returns.
- Lectures on—
  - Organization of the Army, patrols and outposts, marches, camps, and camp hygiene, lines and bases of operations, attack and defence of advance and rear guards, outposts and convoys.
- Elements of Field Engineering.
- The Art of War (elementary).

Drills are held for one hour daily (Saturdays and Sundays excepted) throughout the year.

Recitations are held as noted under the different academic courses.

The Cadets are at all times under military discipline, and strict observance of military customs is required, the daily routine of an army post, including the mounting of the guard and formations for drill and parade, being carried out as far as practicable.

The Cadet officers are appointed, under the orders of the War Department, in accordance with the customs obtaining at West Point.

ENCAMPMENT. An encampment of ten days is held at the close of the spring examinations, and the Cadets receive instructions in the details of camp life. This encampment is an essential portion of the Military Course and all Cadets who are in attendance during any portion of the spring term are required to be present thereat, as a part of the obligation assumed by them upon enlistment. There is at this

time an inspection by the Adjutant-General of the Vermont National Guard, or by an officer detailed for the purpose.

PRACTICE MARCHES. The Encampment may be varied by practice marches about the State. During the encampment, and on the march, the Cadets are at all times under the command of the Commandant, who is responsible for their conduct.

ACADEMIC COURSES.

Four regular courses have been established, as follows:

I. Civil Engineering.
II. Arts.
III. Chemistry.
IV. Science and Literature.

The courses in Civil Engineering and Chemistry have a distinctly practical bearing, and give a thorough training for these technical professions.

The course in Arts embraces the usual classical course with French or German, Physical Science, etc., etc.

The course in Science and Literature is intended for such as may not wish to pursue a full course in Classics or Mathematics, or one for a distinctly scientific profession. It is so arranged that it may be taken either with or without Latin. Candidates for this course without Latin will be required to show an equivalent amount of work in other branches.

Each of these courses extends through four years, and is intended to give the student a liberal preparation for the duties of life.

Changes are made in the course in Chemistry to meet the wants of students preparing for Medicine and Pharmacy.

I. THE COURSE IN CIVIL ENGINEERING.

Leading to the degree of Bachelor of Science in Civil Engineering.

NOTE—The figures after each subject indicate the number of recitation periods of sixty minutes each per week.

FRESHMAN YEAR.

FALL TERM.

Algebra.....5	Rhetoric 3
French or German.....3	Free-hand Drawing.....4
Inorganic Chemistry.....3	Military Recitations.....1

WINTER TERM.

Solid Geometry.....3	Lettering.....2
Trigonometry.....2	Tinting and Shading.....2
French or German.....3	Military Recitations.....1
Rhetoric.....3	Inorganic Chemistry.....3

SPRING TERM.

Trigonometry.....3	Rhetoric 4
Analytical Geometry.....2	Mechanical Drawing.....4
French or German.....3	Military Recitations.....1
Inorganic Chemistry.....3	

SOPHOMORE YEAR.

SUMMER SCHOOL OF 96 HOURS BEGINNING ON THE 6TH DAY OF SEPTEMBER.

FALL TERM.

French or German.....3	Descriptive Geometry and Drafting.....6
Mechanics and Heat.....3	Military Recitations.....2
Land Surveying, Leveling and Field Work.....6	Analytical Geometry.....5

WINTER TERM.

Differential Calculus.....5	Descriptive Geometry and Drafting.....6
French or German.....3	Constructive Drawing.....4
Acoustics and Optics.....3	Military Recitations.....2

SPRING TERM.

Integral Calculus.....5	French or German.....3
Advanced Surveying, Topographical and Municipal.....7	Electricity and Magnetism.....3
	Shades and Shadows.....6
	Military Recitations.....2

JUNIOR YEAR.

SUMMER SCHOOL OF 196 HOURS BEGINNING ON THE 23RD DAY OF AUGUST.

FALL TERM.

Rational and Applied Mechanics.5
Stone Cutting.....4
Geology 3
Geodetic and Mining Surveying.5
Colored and Pen Topography...3
Military Recitations.....2

WINTER TERM.

Mechanics of Materials.....5
Blowpipe Analysis and Determinative Mineralogy.....4
Qualitative Analysis.....2
Trusses and Arches.....2
Graphics of Simple Trusses and Arches.....4
Military Recitations.....2

SPRING TERM.

Mechanics of Engineering—
Hydraulics, Retaining Walls, Masonry Dams.....5
Railroad Engineering.....9
Bridge Stresses.....8
Military Recitations 2

SENIOR YEAR.

SUMMER SCHOOL OF 196 HOURS BEGINNING ON THE 23RD DAY OF AUGUST.

FALL TERM.

Commercial Law.....3
Metallurgy.....2
Bridge Designing.....6
Railroad Maps.....3
Water Supply.....4
Military Recitations.....2

WINTER TERM.

Constitutional or International Law.....3
Sanitary Engineering.....3
Materials of Engineering.....5
Design of Bridges 6
Meteorology.....2
Military Recitations.....2

SPRING TERM.

Spherical Astronomy —
Determination of Time, Latitude, etc.....5
Contracts and Specifications ...3
Political Economy..... 3
Highway Engineering.....2
Military Recitations..... ..2
Thesis..... 3

II. THE COURSE IN ARTS.

Leading to the Degree of Bachelor of Arts.

FRESHMAN YEAR.

FALL TERM.

Algebra.....5	Rhetoric.....3
Xenophon, Memorabilia.....3	Inorganic Chemistry.....3
Livy, Books I and XXI or XXII.3	Military Recitations.....1

WINTER TERM.

Trigonometry.....2	Rhetoric.....3
Solid Geometry.....3	Inorganic Chemistry.....3
Stories from Herodotus.....3	Military Recitations.....1
Tacitus—Germania and Agricola 3	

SPRING TERM.

Trigonometry.....3	Rhetoric.....3
Homer's Odyssey, Parts of	Inorganic Chemistry.....3
Books VI to XIII.....3	Military Recitations.....1
Cicero—	
De Senectute, De Amicitia.....3	

SOPHOMORE YEAR.

FALL TERM.

Aristophanes, Clouds.....3	State.....3
Juvenal's Satires or Ovid.....3	English Literature.....3
Mechanics and Heat.....3	Military Recitations.....2
Land Surveying.....6	

WINTER TERM.

Sophocles Oedipus Tyrannus....3	State.....3
Horace—Odes and Epodes.....3	English Literature.....3
Acoustics and Optics.....3	Military Recitations.....2

SPRING TERM.

Æschylus Prometheus Bound...3	State.....3
Horace—Satires and Epistles....3	English Literature.....3
Electricity and Magnetism.....3	Military Recitations.....2

JUNIOR YEAR.

FALL TERM.

Geology	3	State	3
French or German	3	English Literature	3
Zoology	2	Military Recitations	2

WINTER TERM.

Qualitative Analysis	6	State	3
Blowpipe Analysis	4	English Literature	3
French or German	3	Military Recitations	2

SPRING TERM.

French or German	3	State	3
Botany	3	English Literature	3
Qualitative Analysis	6	Military Recitations	2

SENIOR YEAR.

FALL TERM.

Metallurgy	2	Psychology	3
French or German	3	Military Recitations	2
Commercial Law	3		

WINTER TERM.

French or German	3	Logic	3
International Law	3	Meteorology	2
Constitutional Law	3	Military Recitations	2

SPRING TERM.

French or German	3	Astronomy	5
Political Economy	3	Military Recitations	2
Ethics	3		

III. THE COURSE IN CHEMISTRY.

Leading to the Degree of Bachelor of Science in **Chemistry.**

FRESHMAN YEAR.

FALL TERM.

Algebra	5	Rhetoric	3
French or Latin*	3	Free-hand Drawing	4
Inorganic Chemistry	3	Military Recitations	1

* Requires the same preparation as for the Course in Science **and Literature.**

WINTER TERM.

Solid Geometry	3	Rhetoric	3
Trigonometry	2	Lettering	2
French or Latin	3	Tinting and Shading	2
Inorganic Chemistry	3	Military Recitations	1

SPRING TERM.

Trigonometry	3	Rhetoric	3
French or Latin	3	Mechanical Drawing	4
Inorganic Chemistry	3	Military Recitations	1
Qualitative Analysis	5		

SOPHOMORE YEAR.

FALL TERM.

French or Latin	3	Stoichiometry	3
Mechanics and Heat	3	English Literature	3
Qualitative Analysis	10	Military Recitations	2

WINTER TERM.

French or Latin	3	Quantitative Analysis	6
Acoustics and Optics	3	English Literature	3
Blowpipe Analysis	6	Military Recitations	2
History of Chemistry	1		

SPRING TERM.

French or Latin	3	Organic Chemistry	5
Electricity and Magnetism	3	English Literature	3
Quantitative Analysis	10	Military Recitations	2

JUNIOR YEAR.

FALL TERM.

Geology	3	Zoology	2
Organic Chemistry	4	English Literature	3
Organic " Laboratory	6	German	3
Industrial Chemistry	3	Military Recitations	2
Toxicology	2		

WINTER TERM.

Organic Chemistry	4	English Literature	3
Organic " Laboratory	6	German	3
Industrial Chemistry	5	Military Recitations	2
Assaying	2		

SPRING TERM.

Organic Chemistry.....4
Organic " Laboratory..6
Analytical Methods Conf.....5
German.....3
English Literature.....3
Botany.....3
Military Recitations.....2

SENIOR YEAR.

FALL TERM.

Commercial Law.....3
Electrochemistry.....6
Metallurgy.....2
German.....3
Medical Chemistry.....6
Military Recitations.....2

WINTER TERM.

Microscopy.....2
Constitutional Law.....3
International Law.....3
German.....3
Water Analysis.....6
Sanitary Chemistry.....6
Meteorology.....2
Military Recitations.....2

SPRING TERM.

Political Economy.....3
German.....3
Chemistry Thesis.....20
Military Recitations.....2

IV. THE COURSE IN SCIENCE AND LITERATURE.

Leading to the degree of Bachelor of Science.

(Subjects in brackets [ ] for students not taking Latin.)

FRESHMAN YEAR.

FALL TERM.

Algebra.....5
Livy and Latin Prose.....3
Inorganic Chemistry.....3
Rhetoric.....3
French.....3
[Free-hand Drawing.....4]
Military Recitations.....1

WINTER TERM.

Geometry.....3
Trigonometry.....2
Tacitus—Germania.....3
Inorganic Chemistry.....3
Rhetoric.....3
French.....3
[Lettering, Tinting and Shading.....4]
Military Recitations.....1

SPRING TERM

Trigonometry.....3
[Analytical Geometry.....2]
Cicero—
De Senectute, De Amicitia.....3
Rhetoric.....3
French.....3
[Mechanical Drawing.....4]
Military Recitations.....1

SOPHOMORE YEAR.

FALL TERM.

Juvenal's Satires.....3	State 3
Mechanics and Heat.....3	English Literature.....3
French.....3	[Analytical Geometry.....5]
Land Surveying.....6	Military Recitations.....2

WINTER TERM.

Horace—Odes and Epodes.....3	English Literature.....3
Acoustics and Optics 3	[Differential Calculus... .....5]
French 3	Military Recitations.....2
State 3	

SPRING TERM.

Horace—Satires and Epistles....3	English Literature.....3
Electricity and Magnetism.....3	[Integral Calculus.....5]
French 3	Military Recitations.....2
State 3	

JUNIOR YEAR.

FALL TERM.

German 3	State 3
Geology 3	English Literature.....3
Zoology 2	Military Recitations.....2

WINTER TERM.

German 3	State 3
Qualitative Analysis..... 6	English Literature 3
Blowpipe Analysis 4	Military Recitations.....2

SPRING TERM.

German 3	State 3
Botany 3	English Literature 3
Qualitative Analysis..... 6	Military Recitations.....2

SENIOR YEAR.

FALL TERM.

German 3	Psychology 3
Commercial Law 3	Military Recitations... 2
Metallurgy 2	

WINTER TERM.

German	3	Constitutional Law	3
International Law	3	Logic	3
Meteorology	2	Military Recitations	2

SPRING TERM.

German	3	Ethics	3
Political Economy	3	Military Recitations	2
Astronomy	5		

ALL COURSES

JUNIOR AND SENIOR YEARS—

PUBLIC SPEAKING.

SUMMER SCHOOL OF ENGINEERING.

Students of the first class spend the four weeks previous to the opening of the acedemic year in actual practice in railroad surveying; studying the characteristics of some area in or about Northfield for the purpose of determining its adaptability to railroad location.

Making the complete survey necessary for the construction of a railroad of two or three miles length.

In addition to the above considerable time is given to triangulation and geodetic surveying.

Students of the second class are given four weeks of general surveying and office calculations involving principally the methods of topographical surveying by transit and stadia combined with cross-sectioning. Some time is spent in the study of problems involved in municipal engineering; such as sewers; grades; profile streets; sidewalks, etc.

Students of the third class are required to attend lectures upon the use and care of instruments, with special attention to the use of the compass, chain, tape, level, etc. and many applications to engineering problems in the field. Time two weeks

TEXT BOOKS AND BOOKS [illegible]

[illegible]

Algebra [illegible]
Geometry [illegible]
Trigonometry [illegible]
Analytical Geometry [illegible]
Calculus [illegible]

[illegible]

Surveying [illegible]
Railroad Surveying [illegible]
Graphics [illegible]
Civil Engineering [illegible]
Specifications [illegible]
Water Supply [illegible]
Materials [illegible]
son.
Sanitary Engineering [illegible]

[illegible]

Botany [illegible]
sons.
Chemistry [illegible]
Chemistry, Analysis [illegible]
Elliot Fresenius.
Volumetric Analysis, [illegible]
Sutton.
Analysis, [illegible]
Julian.
Industrial [illegible]
Thorpe.
Blowpipe [illegible]
Plattner's [illegible]
[illegible]
Metallurgy [illegible]
Text Book [illegible]
lurgy. (Gore's [illegible]
lurgy and [illegible]

TEXT BOOKS AND BOOKS OF REFERENCE.

MATHEMATICS.

Algebra.....Wells' University
Geometry.....Phillips & Fisher
Trigonometry..Phillips & Strong
Analytical Geometry. { Tanner & Allen
Calculus .....Taylor, (Revised)
Descriptive Geometry....Church
Mechanics.....Wright
Least Squares.....Merriman
Astronomy..... White
Technique of Mechanical Drawing..... Reinhardt

ENGINEERING.

Surveying .....Johnson
Railroad Surveying.....Nagle
Graphics .....Merriman & Jacoby
Civil Engineering.. { Paton and Trautwine
Specifications.....Johnson
Water Supply..... { Turneaure and Russell
Materials of Construction, Johnson.
Sanitary Engineering....Folwell
Lettering.....Reinhardt, Wilson
Stereotomy .....Mahan
Stresses in Framed Structures..... { Johnson and Bryant
Wellington's Earth Work Computation.
Foundations.....Paton
Bridge Designing.....Merriman
Hydraulics .....Merriman

SCIENCES.

Botany—Gray's Manual and Lessons.
Chemistry—Inorganic .....Newth
Chemistry, Analysis, Qualitative, Elliot, Fresenius.
Volumetric Analysis, Schimpf, Sutton.
Analysis, Quantitative....Evans, Julian.
Industrial Chemistry, Sadtler, Thorpe.
Blowpipe, Plimpton's Qualitative, Plattner's Qualitative and Quantitative, by Cornwall.
Metallurgy and Assaying, Hiorn's Text-Book of Elementary Metallurgy, Hiorn's Practical Metallurgy and Assaying.
Medical Chemistry, Ralfe's Clinical Chemistry.
Organic, ... Appleton's Experiments, Remsen
Food Adulteration and its Detection.....Battershall, Blyth
Toxicology .....Blyth
Physics Principles of Physics, Gage.
Zoology.....Packard
Geology.....Le Conte
Mineralogy, Dana's Manual, and Foye's Tables.

MODERN LANGUAGES.

French..Whitney's French Grammar.
Super's French Reader.
French Literature.
German....Rosenthal's German Lessons.
Joynes'-Meissner German Grammar.
Huff's German Reader.
German Literature.

HISTORY, POLITICAL SCIENCE AND LAW.

English.....Montgomery
Political Economy.....Walker
Psychology.....James
Logic.....Jevons
Ethics.....Hyde
International Law.....Davis
Constitutional Law.....Cooley
Commercial Law... Townshend
The State.....Wilson
Documents of American History.
American Commonwealth—Bryce.

ENGLISH.

Rhetoric.....Hill's Principles of Practical Rhetoric.
Genung's Practical Rhetoric.
Lewis' Inductive Rhetoric.
Elocution—Clark's Notes on Reading.
Bacon's Manual of Gesture.
English Literature.....Arnold

MILITARY SCIENCE.

Drill Regulations for Infantry and Artillery.
Small Arms Firing Regulations.
Wagner's Organization and Tactics.
Wagner's Security and Information.
Batchelor's Fire Discipline.
Winthrop's Military Law.
Manual of Field Engineering.
Also other books and publications which are found suitable for instruction in military work.

DEGREES, ETC.

The candidate for any degree must deposit with the faculty a satisfactory thesis on some scientific or literary subject connected with his department.

DEGREES OF GRADUATION.

The degree of Bachelor of Science in Civil Engineering is conferred upon any student who has completed the course in Civil Engineering.

The degree of Bachelor of Arts is conferred upon any student who has completed the course in Arts.

The degree of Bachelor of Science in Chemistry is conferred upon any student who has completed the course in Chemistry.

The degree of Bachelor of Science is conferred upon any student who has completed the course in Science and Literature.

ADVANCED DEGREES. The degree of Master of Arts, or Master in Science, including that of Civil Engineer, may be conferred on graduates of two years' standing of this or any other reputable college, who have spent at least one year in post-graduate studies under the direction of the faculty, and on graduates of three years' standing who have during that time been engaged in professional, literary or scientific pursuits, or have pursued a course of liberal study, subject to the approval of the faculty.

Candidates for either degree are required to present a thesis upon some branch of liberal study pursued since graduation, and to pass an examination before the faculty. The thesis must be presented at least three weeks before commencement and a copy furnished to be placed in the library of the University.

TEACHER'S CERTIFICATES. Graduates of the University who may wish to engage in teaching in Vermont are entitled to a five years' teacher's certificate without examination.

COMMISSIONED OFFICERS. Upon graduation, Cadet Officers receive commissions in the Norwich Cadets, signed by the President of the University, and by the Adjutant and Inspector-General of the State. The Board of Visitors have recommended that those who are residents of Vermont, be, upon special recommendation of the President, commissioned as additional Second-Lieutenants in the Vermont National Guard.

LIBRARY.

The Library is located in the Dewey Hall, where stacks to accommodate 20,000 volumes have been erected. The Library is classified according to the Dewey System, and the work of making a card index is progressing as rapidly as possible.

The Library is open for the use of the students from 9 a. m. to 6 p. m. on academic days, and on Saturday from 9 a. m. until 12 m.

During the past year 1,500 volumes have been added to the Library, making a total of about 10,000 volumes. In addition to this there are fully 5,000 pamphlets.

Gen. G. M. Dodge, '50, has presented the Library over 300 volumes and several hundred pamphlets.

Through the efforts of the late Dr. H. H. Walling, the Library of the Rev. W. A. Benedict, of Orange Park, Fla., was given to us by his estate. This Library numbers fully 800 volumes, and contains many works of historical value.

Capt. J. E. Ainsworth, '53, has generously given a liberal check to be expended in binding the current magazines.

Mr. P. M. Fletcher, '87, has generously enabled us to complete the file of the Journal Association of Engineering Societies and has furnished the necessary material to properly light the Library Stack room.

Prof. J. B. Johnson, '79, and Waldo P. Clement, '72, have also contributed to the Library.

The following persons have contributed books :

Adj. Gen., Iowa.,	7 Vols.	Col. Kittredge Haskins,	30 Vols.
" " N. Y.,	26	Prof. J. B. Johnson, '79,	2
President Brown,	4	Gen. H. C. King,	2
Bos. Society, C. E.,	5	Johnson Post, G. A. R.,	7
William S. Clark, '06,	4	Prof. G. L. Lanza,	1
Army of the Cumberland,	1	F. H. Mann,	1
Estate Rev. W. A. Benedict,	800	Charles H. Cheney, '86,	2
Church Later Day Saints,	3	Met. Park Commis.,	5
Andrew Dunham,	1	Miss M. P. Moore,	3
Frank H. Drown, ex., '03,	20	Massachusetts,	31
Dr. Van S. Denton,	1	Dr. Newcomb,	4
		National Museum,	6

Gen. W. H. H. Davis, '42,	3	Edward McC. Peters, '80,	10
Gen. G. M. Dodge,	300	F. M. Sheldon,	1
W. A. Ellis, '97,	4	Gen. Elec. Co.,	3
James Evans,	4	United States,	20
France,	1	Vermont,	10
J. Albert Holmes, '95,	17	Capt. C. H. Wilcox,	1
Gen. O. O. Howard,	3	William Watt,	1
Dr. L. C. Howard,	3	Wis. Geolog. Survey,	5
A. Bartin Hepburn,	1	Capt. J. E. Ainsworth, '53,	1

READING ROOM.

The Reading Room is pleasantly located in the Dewey Hall, in a room opening into the library, and is open daily for the use of the Cadets from 8 A. M. until 7.40 P. M., and on Friday and Saturday evenings until 10 P. M., and on Sunday from 2 to 7.30 P. M.

A liberal supply of periodicals and newspapers are kept on file as follows:

PAPERS AND MAGAZINES.

READING ROOM.

American Antiquarian and Oriental Journal.	McClure's.
Amer. Journal of Archæology.	Munsey.
Architectural Record.	Nat'l Geo. Magazine.
Army and Navy Journal.	North American Review.
Army and Navy Record.	New England.
Atlantic.	Outing.
Arena.	Outlook.
Amer. Journal of Sociology.	Pedagogical Sem.
American Inventor.	Physical Culture.
Bookman.	Popular Science Monthly.
Booklover's Magazine.	Proc. Eng. Society Western Penn.
Bulletin Nat'l Geo. Society.	Proc. Eng. Club of Philadelphia.
Cassier's.	Proc. Western Club.
Century.	Proc. Am. Soc. C. E.
Chautauquan.	Protectionist.
Chemical News, (London)	Public Opinion.
Cosmopolitan.	Puck.
Current Literature.	Review of Reviews.
Education.	Saturday Evening Post.
Engineering.	Success.
Eng. and Mining Journal.	Science.
	Scientific American.

Engineering News.
Engineering Record.
Electro Chemical Industry.
Electrical World and Eng.
Expansion.
Everybody's.
Forum.
Good Roads Magazine.
Granite Monthly.
Harper's Monthly.
Harper's Weekly.
International Quarterly.
Journal Amer. Chemical Society.
Journal Military Service Inst.
Journal U. S. Artillery.
Journal Assoc. Eng. Societies.
Journal N. E. Water Works Assn.
Journal Western Soc. C. E.
Journal U. S. Cavalry Assoc.
Literary Digest.
Magazine of Art.
Sci. Amer. Supplement.
Sci. Amer. Building Monthly.
Scribner's.
Sound Currency.
Trans. Am. Soc. C. E.
United Service.
United Service, (London)
Vermonter.
World's Work.

PAPERS.

New York Sun.
Boston Globe.
Boston Transcript.
Argus and Patriot.
Burlington Free Press.
St. Albans Messenger.
La Presse, Montreal.
Northfield News.
Randolph Herald and News.
Bennington Banner and Reformer

73 Magazines. 10 Papers.

The following persons have contributed magazines to the Reading Room:

Mrs. H. H. Walling, Miss Minnie Moore, Dr. George Nichols, Elwin Thompson, Maj. H. W. Hovey, Mrs. Preston, Western Ry. Club, Mrs. Roswell K. Peck, Fred Whitney, Gen. G. M. Dodge, '50; Mr. Edward McC. Peters, '80; H. K. Brooks, '09; J. P. Moseley, '99; H. V. Dunham, '97; Pres. A. D. Brown, and Prof. H. R. Roberts, J. Wilbur Cook, '98, Col. Albert Clarke, William Watt, Reform Club, New York City and The American Peace Society.

MUSEUM.

The Museum is located in the Dewey Hall. During the past years extensive improvements have been made. A friend contributed $900 to be expended in purchasing display cases.

A number of valuable donations have been received, as follows: Mrs. Maria L. Gove, of Concord, N. H., a fine collection of Indian Relics. Hon. Frank Plumley, A. M., Umpire in the British-Venezuelan and the Holland-Venezuelan Mixed

Commissions, 1903, has presented the Museum ancient guns used in the Venezuelan army, and a fine collection of Venezuelan insects; Charles Ordway, cactus and petrified wood.

Cadet Major George C. Randall, a collection of shells; Mrs. Betsey G. Wood, mineral sands, Charleston, S. C.; Prof. Carleton, collection of shells; Col. W. A. Treadwell, '57, a collection of California minerals; G. Harold Ellis, '98, a fine specimen of a lynx, Chester, Vt.; Mrs. Fred Green, earthernware from Manila; Emilio Guerra y Giro, '03, sample of native woods of Cuba, and copper ore; Miss Celia Hitchcock, a portrait of Gen. Washington; Mrs. Eva D. Greenwood, a fine portrait of her husband, Col. William H. Greenwood, '51; Prof. C. C. Brill, minerals, and shells from Philippine Islands.

GENERAL INFORMATION.

EXPENSES.

The following are the University Expenses:

Tuition	$65.00
Room Rent	15.00
Incidentals	15.00
Heat	13.50
Lights	7.50
	$116

The expenses are payable as follows:

Fall Term	$63.00
Winter	26.00
Spring	27.00
	$116

BOARD is readily obtainable in the village at a price varying from $3 to $3.25 a week. Members of the Fraternities mess at their Houses. Self board is practicable.

ROOMS. The rooms on the First passage of the Barracks are furnished and the rental for the furniture to each occupant is $5 per year. The remaining rooms in the Barracks are unfurnished. The cost of furnishing each room is about $15 to each occupant. This furniture is of prescribed pattern.

In case the rooms in the Barracks are taken, cadets may ob-

tain accommodations in the immediate vicinity of the University at reasonable rates.

HEAT AND LIGHTS. The Barracks are lighted by electricity and heated by steam, the charges for the same are given in the tabulated list of expenses given above, and are payable in the bill for the Fall Term.

By strict economy a cadet can limit his expenses to $250, and $350 a year is a liberal allowance.

Students should bring all their bed linen (for single bed), blankets, pillow and towels.

Laundry facilities are accessible in the village at reasonable rates.

PAYMENT OF BILLS. *All bills are payable in advance, by the first Friday of each term, and cadets will not be admitted to the privilege of the section rooms until their bills are paid.* The Treasurer will be in attendance at his office daily, until the expiration of the time for this payment.

If for any reason delay in payment is desired, satisfactory arrangements must be made therefor in writing, prior to this time.

No cadet in debt to the University will be permitted to enter the examinations at the close of a term.

FEES. Students in the Course in Chemistry pay a fee of $8 per term for chemicals during the Sophomore, Junior and Senior years.

In the Engineering course in Qualitative Analysis, $3 is charged in the second term of the Junior year. In the other courses a fee of $5 per term is charged for Qualitative Analysis.

A fee of $3 per term is charged for Determinative Mineralogy.

A chemical fee of $1 per term is charged members of the Freshman class.

These charges are for chemicals, and do not include breakage or waste of materials.

The fee for the Summer School in the Engineering Course is $10 for 1st and 2nd Classes, $2.50 for 3rd Class; persons not

cadets, who are properly prepared, may join this school, the fee being $25. Subsistence and other necessary expenses are not included in these amounts.

A fee of $1.00 per term is charged to Engineering students engaged in field work.

The diploma fee on graduation is $10.

A deposit of fifty cents is required for each room key obtained by a cadet; returnable when the key is returned.

SCHOLARSHIPS. The State of Vermont furnishes thirty scholarships which are at the disposal of the County Senators; information regarding vacancies in these appointments will be furnished upon application to the President. These Scholarships cover tuition and room rent.

There are also additional scholarships covering tuition only, for the aid of deserving students, as follows, information concerning which may be obtained on application to the President.

The CHAUNCEY DENNY Scholarship, founded by the will of the late Chauncey Denny of Northfield, for many years a member of the Board of Trustees, first for the benefit of his kinsfolk, and next for the benefit of residents of Northfield.

The HAMILTON ELLIOTT PERKINS Scholarships, three in number, founded by Miss Susan Perkins of Concord, New Hampshire, in memory of her father, the Hon. Hamilton Eliot Perkins, of the Class of 1824, for the benefit of deserving students from New Hampshire.

The COL. JESSE AUGUSTUS GOVE Scholarship, founded by his widow, Mrs. Jesse A. Gove, and his daughter, Mrs. James M. Killeen, of Concord, N. H., in memory of Col. Jesse A. Gove, '49, for the benefit of deserving students from New Hampshire.

The Scholarship of the Class of 1899.

The Scholarship of the Class of 1900.

The Scholarship of the Class of 1901.

The Scholarship of the Class of 1902.

The Scholarship of the Class of 1903.

POSITIONS FOR ALUMNI. Alumni desiring positions should send their addresses to the President, as he is frequently in receipt of applications for our men.

THE REVEILLE. The Cadets conduct a monthly magazine devoted to the interests of the University, the Alumni, and the Corps.

STUDENTS' SOCIETIES. Two fraternities, Alpha Sigma Pi and Theta Chi, exist among the students (having been founded nearly fifty years ago), in which valuable literary work is done, while at the same time social privileges are enjoyed.

RELIGIOUS FEATURES. Prayers are held in the morning before the opening of academic exercises, the President officiating. On Sunday morning each Cadet is required to attend divine service with some one of the village congregations, the choice being made at the beginning of, and adhered to, throughout the term. The religious societies of the village are: Congregational, Episcopal, Methodist, Roman Catholic and Universalist. While Cadets are held to a strict observance of the rules for religious exercises, and while all immoralities are carefully guarded against, yet the institution is in every respect non-sectarian.

ACADEMIC HONORS. A cadet having a general average for the year of 90 or more receives "honorable mention;" having 90 or more in all branches for the year receives "very honorable mention." One receiving 90 or more in all branches for the whole course is graduated "with highest honors;" one receiving "honorable mention" for each year in the course is graduated "with very high honor." "Honorable mention" in any subject is made of any Cadet who receives 90 or more in the subject for the current year, or for one term, when the subject is completed in that term. If "honorable mention" is made in any branch, on the completion thereof, the recipient is graduated "with honors in———." If "honorable mention" is made in two or more branches, the recipient is graduated "with honors in———and———."

These mentions are made at Commencement and published in the catalogue.

The names of the three members of the Senior Class, who are most distinguished in the Military department are reported to the Secretary of War, and are published in the Army Register of the year following.

The names of all those members of the Senior class who have shown special aptitude for military service are reported to the Secretary of War and the Adjutant General of the State.

THE SHELDON PRIZE SPEAKING. Three prizes of $15, $10 and $5 respectively, are given to the three of the eight competitors from the Sophomore and Freshman classes who show the greatest merit in declamation or debate, in a contest held during Commencement week. These competitors are chosen at a preliminary contest held early in the spring term, *in which all members of both classes are required to participate*, as a portion of the course in rhetoricals. Prize winners in previous contests are debarred from competing.

THE AUSTIN TROPHY. Mr. Fred T. Austin, M. S. (1888) 1st. Lieutenant, Artillery Corps, U. S. Army, has established an annual trophy, consisting of three medals, of gold, silver and bronze, respectively, given to the three Cadets making the highest score at target practice, the winners holding them for one year, provided they remain members of the University.

THE FACULTY GOLD MEDAL. This medal is bestowed upon the member of the Senior class who has the highest academic standing from entrance to the close of the winter term of the Senior year.

THE THOMAS MEDAL. Mr. Geo. D. Thomas, M. A. (1876), gives annually a gold medal to the Cadet who has the highest general average for the year ending with the close of the winter term; this competition is open to the three Senior classes.

THE SHUTTLEWORTH SWORD. Captain E. A. Shuttleworth, U. S. A., M. S. (1891), gives annually, a regulation foot-officer's sword to the member of the Junior class having the highest military standing from entrance to the close of the Junior year.

THE JUCKETT MEDAL. The Hon. Elmer R. Juckett, M. S. (1889), gives annually a gold medal to the member of the base ball team, either regular or substitute, who has the highest academic standing for the year.

THE SOPHOMORE PRIZES. A silver medal is given by the President to each of the three members of the Sophomore class, whose general average, military and academic standing, respectively, are the highest.

THE FRESHMAN PRIZES. A silver medal is given by the President to each of the three members of the Freshman class, whose general average, military and academic standing, respectively, are the highest.

STANDING, ETC. Academic standing depends upon recitations; military standing upon marks of merit and demerit, together with proficiency in military duties: the general average is determined by combining the academic and military standings, the former counting two and the latter one. Immoralities, technical and minor offences, are marked with demerits, and are punishable in other ways. Whenever purely academic duties require variation in special matters, the analogies of military usage are maintained so far as practical.

UNIFORM. The dress uniform consists of a dark blue blouse, with standing collar, dark blue trousers with red stripe, black cravat, white linen standing collar, U. S. regulation forage cap, boots or high shoes of black leather. A dark blue overcoat *of University pattern* may be worn with this uniform under certain restrictions. The fatigue uniform for daily wear is of Army material: and of University pattern, costing from $12. to $15.

The dress uniform is made of a special standard cloth, by the University contractor, at a cost of $25.50, including a cap and one pair of white gloves.

ABSENCE. The number of leaves involving absence over Sunday without affecting the record of a cadet is limited to two per term, any further absence will be counted as unexcused, and will affect the record for deportment and military standing.

Generally speaking, students are expected to remain in attendance during the whole of a term, unless granted special leave of absence. Parents and guardians are requested to re-

strict their applications for leave for their sons or wards to cases of actual necessity.

Those who are absent for any cause for 20 per cent. or more of the assigned recitations in any subject, are required to pass an extra examination, having a weight in the term mark equal to the per cent. of absences. If 15 per cent. or more of absence occurs within four consecutive weeks, the recitations lost are required to be made up by examination within a week of return. If a Cadet leaves during a term for any cause except for continued sickness, no reduction is made in the term bill; in case of sickness, the loss is shared equally by the Cadet and the University.

ATHLETICS. The Athletic Association is governed directly by a committee consisting of members of the Faculty, the Alumni and the Cadets, who make such regulations and arrangements regarding athletic matters as may seem proper. The general relation of athletics to the University is under the control of the Faculty Committee on athletics. The registered colors are maroon and old gold.

LOCATION. Northfield being located on the main line of the Central Vermont Railway, is easy of access from all directions. The Barracks are in direct telegraphic and telephonic connection with the offices and exchanges in Vermont and elsewhere. There is probably no State that can boast of a more healthful climate than Vermont. Northfield is in the central part of the State, ten miles from the Capital, Montpelier. The water is pure and clear, and the University owns its water system which is supplied from springs from the hills at some distance from the Barracks.

FACILITIES FOR MILITARY INSTRUCTION. The drill hall used in common for military and athletic purposes, is a building with a clear floor space, 100 feet long by 40 feet wide. Gallery practice or daily drills are held here during the Winter months. The arm used is the U. S. Magazine Rifle.

The artillery equipment consists of two 3 inch modern breech loading Hotchkiss mountain guns. While for purposes of comparison we have two 6 pound brass Napoleons which have been in service at the University for more than 50 years. (1853-

1903.) In addition to these we have two trophies of the Spanish War, a large gun taken from the Viscaya and a rapid fire Maxim taken from the Oquenda.

In the museum are various small cannon and arms of different periods and nations together with shells, ammunition and armor.

FACULTY COMMITTEES. These committees have been elected to facilitate the work of the faculty in looking after the various interests of the University.

The committees take up the work assigned them and upon its completion report to the faculty, to which body they are responsible.

ALUMNI RELATIONS. Believing that the corner stone of an institution's success rests upon the continued active interest of those who have been members of its student body, we begin with this issue the publication of a list of graduates, that they may keep in touch with each other and the University. It is the intention of the Faculty Committee on Alumni Relations to work for the bringing about of intimate relations between the University and all of her Sons to the end that benefit may be derived by both. Suggestions in this line by the Alumni are requested.

ALUMNI TALKS. There has been inaugurated a plan for getting the Alumni who have been engaged in practical work to give to the students, talks upon subjects pertaining to their studies. Several of these talks have been given during the year, and have been very popular—as showing the practical side of the various courses.

REDUCED FARES. The Central Vermont and Rutland Railroads carry students for two cents per mile, on certificates, to be obtained through the President. To secure these, application should be made not later than

ASSOCIATE ALUMNI AND PAST CADETS.

By action of the Trustees and in accordance with the amended charter, the Alumni and Past Cadets are entitled to nominate one member of the Board of Trustees each year. The meetings of the Association are held in Dodge Hall annually, on the evening preceding Commencement, at eight o'clock.

OFFICERS FOR 1902-1903.

PRESIDENT:

GEORGE D. THOMAS, '76, *Boston.*

VICE-PRESIDENTS:

W. R. DORR, '73, *New York, N. Y.*
F. B. THOMAS, '95, *Montpelier, Vt.*
C. A. PLUMLEY, '96, *Northfield, Vt.*

SECRETARY.

W. A. SHAW, 88, *Northfield.*

TREASURER.

M. D. SMITH, '81, *Northfield.*

ATHLETIC DIRECTORS:

FRED B. THOMAS, '95, *Montpelier, Vt.*
WILLIS E. TERRILL, '89, *Montpelier, Vt.*
HEBER, C. CADY, '91, *Northfield, Vt.*

Members of the Association not present may vote by written ballot at the annual election of Trustees. It is therefore important that each member keep the Secretary informed of his full address, and notify him promptly of any change.

OFFICERS OF NORWICH UNIVERSITY ASSOCIATION OF BOSTON, 1903-4.

PRESIDENT:

(Vacant by resignation.)

VICE-PRESIDENTS:

JOHN Q. A. MCCOLLESTER, '53,
E. W. CLARK, '92.
J. F. RICHARDSON, '00.
GEO. F. ABBOTT, '91.

SECRETARY:

B. W. GLEASON, '92.
The Westminster, (Room 65) Copley Square.

TREASURER:

D. C. WARREN, '95.

NEW YORK ALUMNI ASSOCIATION.

COMMENCEMENT, 1903.

Preacher of the Baccalaureate Sermon.

THE REV. BRIAN C. ROBERTS, *Barre, Vt.*

DEGREES CONFERRED.

GRADUATION:

Bachelor of Science,

KEMP RUSSELL BLANCHARD FLINT,
ROBERT LEE WILKINS,

Bachelor of Science in Chemistry,

JOHN HAROLD FOSTER.

Bachelor of Science in Civil Engineering,

ARTHUR GARFIELD BAKER,
ERNEST STEARNS BALL,
BERTRAND DORR BARKER,
JOHN HENRY BYRD,
ELROY ALBERT CHASE,
GILBERT CLARENCE EASTMAN,
ROBERT BURNS FARQUHARSON,
SAMUEL LESLIE FULLER,
EMILIO GUERRA Y GIRO,
FRITZ LOUIS METZGER,
STANLEY JOHN PARSONS,
ARTHUR HARRY PEABODY,
JOHN TINNEY POWERS,
MARSHALL MORRILL STOCKER,
ALLAN RAWSON WILLIAMS,
SETH WILLIAMS.

IN COURSE—*Doctor of Science,*

HENRY VAIL DUNHAM, '97.
Rotterdam, Holland.

HONORARY—*Master of Arts,*

GENERAL B. G. FARRAR, '45.
St. Louis, Mo.

Civil Engineer—SAMUEL THOMAS WELLMAN, '65.
Cleveland, O.

Doctor of Laws—EX-GOV. W. W. STICKNEY.

HONOR LIST.

Valedictorian and Senior Gold Medalist,

SAMUEL LESLIE FULLER.

Salutatorian,

JOHN HAROLD FOSTER.

Commencement Speakers,

JOHN HENRY BYRD.
KEMP RUSSELL BLANCHARD FLINT.
STANLEY JOHN PARSONS.

[to the War Department and to the Adjutant General of the State as most distinguished in the Military Department.

SETH WILLIAMS.
ALLAN RAWSON WILLIAMS.
GILBERT CLARENCE EASTMAN.

Winners in the Prize Speaking Contest,

First Prize. DANA HOWES GILMAN, '06.
Second Prize, CLARENCE RAY CALDERWOOD, '06.
Third Prize. LUDLOW OSMOND BARKER, '06.

Winners of the Austin Trophy,

Gold, HUGH JAMES BETTERLEY, '06.
Silver, RALPH LEON GILMAN, '04.
Bronze, GUY GARFIELD RUSSELL, '04.

Winner of the Thomas Medal,

ERNEST ALLEN LAWRENCE, '05.

Winner of the Shuttleworth Sword,

GEORGE CHRISTOPHER RANDALL.

Winner of the Juckett Medal.

WILLIE AMOS TOWER.

Winners of the President's Medals.

SOPHOMORES.

General Average, ERNEST ALLEN LAWRENCE.
Military Standing, ERNEST ALLEN LAWRENCE.
Academic Standing, ERNEST ALLEN LAWRENCE.

FRESHMEN.

General Average, LUDLOW OSMOND BARKER.
Military Standing, DANA HOWES GILMAN.
Academic Standing, LUDLOW OSMOND BARKER.

MPETITORS IN PRIZE SPEAKING CONTEST.

Ernest Allen Lawrence,	'05.
Percival Creighton Sinclair,	
Sidney Wallace Bampton,	'06.
Ludlow Osmond Barker,	
Clarence Roy Calderwood,	
Dana Howes Gilman,	
William Edgar Maxham,	

BATTALION ORGANIZATION.

MAJOR HENRY W. HOVEY, 23d Infantry, U. S. Army,
Commandant.

CADET MAJOR GEORGE CHRISTOPHER RANDALL.

CADET 1ST LIEUT. HOMER EYTON CHASE RAINEY, Adjutant.

CADET 2ND LIEUT. CHARLES FRANKLIN GALLUP, Quartermaster.

CADET SERGT.-MAJOR ERNEST ALLEN LAWRENCE.

CADET QUARTER-MASTER SERGEANT JOY CLYDE ROSS.

COMPANY A.

CADET CAPTAIN WILLIAM SELDEN HUTCHINSON.

CADET 1ST LIEUT. RALPH LEON GILMAN.

CADET 2ND LIEUT. EARL DEXTER PERRY.

CADET 1ST SERGT. RALPH ALBURTON BOOTH.

COMPANY B.

CADET CAPTAIN WILLIAM ELBRIDGE CHARLES WASHBURN.

CADET 1ST LIEUT. GUY GARFIELD RUSSELL.

CADET 2ND LIEUT. JOSEPH EDMUND MCGREEN.

CADET 1ST SERGT. PERCIVAL CREIGHTON SINCLAIR.

SENIOR CLASS.

Name.	*Course.*	*Home Address.*
Charles Franklin Gallup,	C. E.	*West Woodstock*
Ralph Leon Gilman,	C. E.	*Chelsea*
William Selden Hutchinson,	C. E.	*Enosburgh Falls*
Joseph Edmund McGreen,	Ch.	*Bellows Falls*
Earl Dexter Perry,	C. E.	*Worcester, Mass.*
Homer Eyton Chase Rainey,	C. E.	*Randolph*
George Christopher Randall,	C. E.	*Woodsville, N. H.*
Guy Garfield Russell,	Ch.	*Hartland*
William Elbridge Charles Washburn,	C. E.	*Northfield*

JUNIOR CLASS.

Name.	*Course.*	*Home Address.*
Ralph Alburton Booth,	Arts.	*Morrisville*
Joseph Cleophas Coulombe,	C. E.	*Island Pond*
Harry Raymond Deal,	Ch.	*Piermont, N. H.*
Joseph Harold Denny,	Ch.	*Northfield*
John Joseph Howard,	Ch.	*Bellows Falls*
Ernest Allen Lawrence,	C. E.	*Montpelier*
Edward Moore,	S. & L.	*Island Pond*
Joy Clyde Ross,	C. E.	*Imlay City, Mich.*
Percival Creighton Sinclair,	C. E.	*Johnson*

SOPHOMORE CLASS.

Name.	*Course.*	*Home Address.*
Clarence Raymond Andrew,	C. E.	*Winthrop Center, Me.*
Sidney Wallace Bampton,	C. E.	*Boston, Mass.*
Ludlow Osmond Barker, Jr.,	C. E.	*Montpelier*
Daniel Rogers Barney,	C. E.	*Springfield*
Carl Augustus Barrett,	C. E.	*Stoneham, Mass.*
Hugh James Betterley,	C. E.	*Brattleboro*
Clarence Myron Burnett,	C. E.	*Northampton, Mass.*
Arthur Emory Burr,	C. E.	*Bellows Falls*

Jose Maria Carbonell,	C. E.	*Havana, Cuba*
William Edward Carleton,	C. E.	*Cumberland Mills, Me.*
William Safford Clarke,	Ch.	*Milford, Mass.*
Harry Freeman Doe,	Ch.	*South Newbury*
Halsey Charles Edgerton,	C. E.	*Northfield*
Malcolm James Edgerton,	C. E.	*Northfield*
Dana Howes Gilman,	C. E.	*Brattleboro*
Charles Ralph Hartwell,	C. E.	*Montpelier*
Bradford Pierce Hovey,	Ch.	*Northfield*
Haroll Moore Howe,	C. E.	*Northfield*
William Clayton Newell, Jr.,	C. E.	*Doylestown, Pa.*
Martin Leroy Rumrill,	C. E.	*Randoph*
James Baldwin Swett,	C. E.	*Southern Pines, N. C.*
Clarence Arthur Tenney,	C. E.	*Brattleboro*
Daniel Putnam Thompson,	C. E.	*Bellows Falls*
Frank Nelson Tinker,	C. E.	*Danville*
Willie Amos Tower,	C. E.	*Barton*

FRESHMAN CLASS.

Name.	*Course.*	*Home Address.*
Frank Millard Barney,	C. E.	*Springfield*
Roy Morse Batchelder,	C. E.	*Waterbury*
Roy Melville Blanchard,	C. E.	*Cumberland Mills, Me.*
William Peirce Brown,	C. E.	*Northfield*
Guy Walter Cobb,	C. E.	*Springfield*
Chester Hayden Coggeshall,	C. E.	*Lowell, Mass.*
Eugene Joseph Cray,	Ch.	*Bellows Falls*
Leroy Howland Davis,	C. E.	*So. Royalton*
Norris Mead Davis,	C. E.	*Chester*
Richard Henry Davis,	C. E.	*Rutland*
Oliver Newell Eastman,	C. E.	*Woodsville, N. H.*
Clarence Eugene Ellsworth,	C. E.	*Wentworth, N. H.*
Joseph Allen Evarts,	C. E.	*St. Albans*
Charles Dexter Frink,	C. E.	*Brookfield*
Noah Cornelius Frink,	C. E.	*Brookfield*
Fay Henry Cameron Graves,	C. E.	*Vergennes*
Oliver Taft Hazleton,	C. E.	*Northfield*

Timothy Joseph Holland,	C. E. ..... *Gouldsville*
David Leroy Hoyt,	C. E. ..... *Northfield*
Carl George Huntington,	C. E. ..... *Randolph*
Edwin Dana Huntley,	C. E. ..... *Burlington*
Edwin Kent Jones,	C. E. ..... *Northfield*
Nelson Raymond Jones,	C. E. ..... *Burlington*
Charles Leonard Keating,	C. E. ..... *Ludlow*
Frank Henry Keese,	C. E. ..... *Middlebury*
Leroy Eugene Knight,	C. E. ..... *Bellows Falls*
Paul Charles Lapan,	C. E. ..... *Franklin*
Howard Blakeslee Leighton,	C. E. ..... *New Haven, Conn.*
Oliver Yeaton Leonard,	C. E. ..... *Northfield*
Grosvenor Roy Lindsey,	C. E. ..... *Island Pond*
Arthur James McKay,	C. E. ..... *Northampton, Mass.*
William John Martin,	C. E. ..... *Chasm Falls, N. Y.*
Walter Kidder Means,	C. E. ..... *Lowell, Mass.*
John Herbert Mears,	C. E. ..... *Enosburg Falls*
Francis Henry Mitchell,	C. E. ..... *Lowell, Mass.*
George Miles Moore,	C. E. ..... *Orange, Mass.*
Frank Flint Morganson,	C. E. ..... *Proctor*
Marshall Joseph Noyes,	C. E. ..... *Brattleboro*
Leslie James Oram,	C. E. ..... *Brandon*
Alden Merriam Parker,	C. E. ..... *Winchendon, Mass.*
Roland Daniel Potter,	Ch. ..... *West Boylston, Mass.*
Harry Chadwick Pratt,	C. E. ..... *Montpelier*
William Trowbridge Randall,	C. E. ..... *Proctor*
Harold Albert Ransom,	C. E. ..... *Castleton*
William Maurice Ryan,	C. E. ..... *Gouldsville*
William Howard Sharp,	C. E. ..... *Northfield*
Burton Monroe Shepard,	C. E. ..... *So. Royalton*
Philip Vincent Sherman,	C. E. ..... *Burlington*
Fred Leon Smith,	C. E. ..... *Ludlow*
Robert Moxley Squires,	C. E. ..... *Canton, N. Y.*
Claude Sykes,	C. E. ..... *Brownsville*
Thorpe Ridley Thomas,	C. E. ..... *Bristol*
Lucian Joseph Trombly,	C. E. ..... *Springfield*
Frank Pomeroy Truax,	C. E. ..... *Franklin*
Robert Pettigrew Watson,	C. E. ..... *Lyndonville*

Arthur Edward Wilkins,	Ch..... *West Lebanon, N. H.*
Charles Albert Woods,	C. E..... *W. Danville*

SPECIAL STUDENTS.

Not candidates for a degree.

Harry Fitzgerald Causebrook..... *Island Pond*
John Edwin Donahue..... *Berlin*
William Laurence Kathan..... *Northfield*
William Edgar Maxham..... *Bethel*

SUMMARY.

Seniors	9
Juniors	9
Sophomores	25
Freshmen	57
Special	4
Total	104

ROSTER OF THE GRADUATES
OF
NORWICH UNIVERSITY.

In presenting this "Roster" of the Alumni of Norwich University, no effort has been made at this time for completeness. A few of the most important positions held by the Graduates are given. The last position mentioned is the one held at the present time or at the death of the Alumnus.

A large portion of the data used in this Roster was taken from the "History of Norwich University 1819-98," compiled by W. A. Ellis of the class of 1897. It is earnestly requested that our Alumni and friends will carefully look through the Roster and inform Mr. Ellis of any change or addition. Information is also desired of the Past Cadets of the University.

An effort is being made to get the record of our Alumni and Past Cadets and any information will be gladly received.

The star (*) before a name indicates the death of the person; the dagger (†), that no information has been received concerning the person; a degree enclosed in a parenthesis as (A. M.) indicates that it was given by an institution other than Norwich University. The graduates of the American, Literary, Scientific and Military Academy, as far as known, are arranged in alphabetical order.

***Joseph Dana Allen, A M., 1825.**
Ch. Eng., Utica & Oswego R. R.; Erie R. R.; Erie Canal; Consulting Eng. Chicago and No. Western R. R.; Albany and Northern R. R. Burlington, Vt.

***Charles Armory, 1824.**
Merchant, Boston, Mass.

***Jacob Babbitt, 1826.**
Merchant; Maj. 7th R. I. Infit. Civ. War; Bristol, R. I.

***Jonathan Baker, 1826.**
Merchant, Charleston, N. H.

***Carlos Baxter, A. M., 1826.**
Lawyer and Manufacturer, Burlington, Vt.

***Portus Baxter, A. M., 1824.**
Merchant; Mem. Congress 1860-66; Derby, Vt.

***William Augustus Beach, 1828.**
Lawyer, New York, N. Y.

†*Daniel Havens Bingham, 1822.
Civ. Eng. State of Ark.; Editor Athens, Ala.

***Charles Stewart Boggs, 1828.**
Rear Admiral U. S. N., New Brunswick, N. J.

***William Brenton Boggs, 1827.**
Pay Director, U. S. N., New Brunswick, N. J.

***James Vote Bomford, 1828**
Col. and Brev. Brig. General U. S. A.; Elizabeth, N. J.

Orestes Augustus Brownson, LL. D.
Clergyman; Editor *Brownson's Quarterly Review, New York.*

†*William G. Brooks, 1823.
Author, Boston, Mass.

***Joseph Bartlett Bourleigh, A. M., LL. D. 1833.**

Founded Newton College, Baltimore; Educator and Author; Baltimore, Md.

***Thomas Bragg, 1828.**

Lawyer; Gov. N. C. 1854-1856; U. S. Senator, 1858-61; Att. Gen. C. S. A., Raleigh, N. C.

***Albermarle Cady, 1825.**

Col. and Brig. Gen. U. S. A.; Concord, N. H.

***Paul Carrington Cameron, 1827.**

Financier, Stagville, N. C.

***Edward William Carpenter, 1823.**

Commodore, U. S. N.; Shrewsbury, N.J.

***William Simpson Campbell, 1826.**

Asst. Eng. Erie Canal; City Eng. New Orleans; consulting Eng. New Orleans & Jackson R. R., New Orleans, La.

***Asa W. H. Clapp, 1824.**

Mem. Cong. 1841; Financier; Portland, Maine.

***Zera Colburn, A. M., 1834.**

Noted Mathematician; Prof. of Lan. N. U. 1835-39; Norwich, Vt.

***George Musalas Colvorcorees, A. M., 1831.**

Capt. U. S. N.; Litchfield, Conn.

***Randolph Coyle, 1828.**

Asst. Eng. Ches. & Ohio Canal; U. S. Eng. 1840-1841; City Surveyor Wash. D. C.; Eng. in charge of cons. of bridge across the Potomac at Little Falls, Warrenton, Va.

†***Thomas Tingey Craven, 1824.**

Rear Admi. U. S. N.; Portsmouth, N. H.

***Henry Wyles Cushman, A. M., 1825.**

Educator; Lt. Gov. Mass. 1851-1852; Bernardstown, Mass.

†***John W. Dicks, 1823.**

Master, U. S. N., Civil War.

***Ralph Smith Dorr, 1824.**

Merchant, Buenos Ayres, S. A.; San Francisco, Cal.

†***Ebenezer Farrand, 1826.**

Commander U. S. N.; Commodore, C. S. N.; Charleston, S. C.

***Ryland Fletcher, 1824.**

Politician; Gov. Vt. 1856-58; Brig. Gen. V. N. G.; Cavendish, Vt.

†***Thomas W. Freelon, 1823.**

Commander U. S. N.

***John Fries Frazer, LL. D.**

Vice-Provost Univ. of Pa.; author and editor; Phila., Pa.

†***Samuel K. George, A. M., 1834.**

Merchant, Baltimore, Md.

***Robert Hallowell Gardiner, 1826.**

Civil Eng.; Savannah, Ga.

***James Glynn, 1823.**

Commodore U. S. N.

***William Bradford Gilbert, 1828.**

Ch. Eng. of Wis. Rys., now Chi., Mil. & St. Paul; New York Central; Palmyra, N. Y.

***Reuben Charles Hale, 1827.**

Lawyer; Q. M. Gen. Pa. 1861-63; Phi ipsburg, Pa.

William S. Harris, 1823.

Commander U. S. N.

†***Henry J. Hartstene, 1828.**

Commander U. S. N.; Arctic Explore Capt. C. S. N.; Savannah Ga.

***Guildford H. Hathaway, A. M. 1824.**

Banker, Fall River, Mass.

†***Augustus Allen Hayes, M. D. 1823.**

State Assayor, Mass.; author; Brool line, Mass.

***John Holbrook, 1825.**

Instruct. N. U.; Pres. Jefferson Coll Miss.

***John Calvin Holbrook, D. D., LL. D., 182**

Cong'l. Clergyman; Editor and Autho Stockton, Cal.

***Michael Hoke, 1829.**

Lawyer, Lincolnton, N. C.

†**James T. Homans, 1823.**

Lt. U. S. N.

***Valentine B. Horton, 1835.**

Prof. Math. and Tactics, 1825-30; Law yer; Manufacturer; Mem. Cong. 185 1856, 1860.

***Arthur Fisher Holmes, 1826.**

Planter, Fla.; Maj. Seminole War; Cus tom House Officer under the U. S. & C S. Governments; Aiken, S. C.

***Henry Griswold Hubbard, 1830.**

Manufacturer, Middletown, Conn.

***Sanders Irving, 1829.**

Civ. Eng., Wash., D. C.

***Augustine de Iturbide, 1828**

s of Gen. Augustine de Iturbide, Em peror of Mexico; officer in the Mexican and Spanish armies; Wash., D. C.

***Edwin Ferry Johnson, A. M., C. E., 1825,**

Ch. Eng. N. Y. & Boston R. R.; Rock River valley Union; Ill. and Wis.; Northern Pacific 1866-70; Consult. Eng. 1870-72; Author; New York, N. Y.

***John Pringle Jones, LL. D., 1828.**

Lawyer; Judge District Court; Author; Phila., Pa.

***Jefferson Parish Kidder, A. M., 1828.**

Lawyer; Mem. Vt. Senate; Lt. Gov. Vt. 1852-54; Assoc. Jus. U. S. Courts for Dakota Ter.; Delegate to Congress 1876-80; St. Paul.

***Edward A. Kimball, 1844.**

Editor; Capt. and Brev. Maj. 9th U. S. Inft. Mex. War; Lt. Col. "Hawkins' Zouaves," 9th N. Y. Vols.; New York.

†***Roswell Walter Lee, 1828.**

Lt. U. S. A.; served in Seminole War; Lt. in the Army of the Republic of Texas 1839-41; County Eng., Fanning Co., Texas; Col. Texas Militia; C. S. A.?

***William Raymond Lee, A. M., 1825.**

Eng. & Supt. Boston & Providence R. R. Col. 20th Mass. Regt. and Bvt. Brig. Gen. U. S. V. Civil War; Jamaica Plain, Mass.

***William Enos Lewis, 1832.**

Surveyor; Brig. Gen. Vt. Militia; Norwich Vt.

***George Little, 1831.**

Lawyer and Planter; Col. C. S. A., Raleigh, N. C.

***Henry Adolphus Loudon, 1830.**

Banker; Wilmington, N. C.

***George Lyman, 1823.**

Merchant; Hartford, Vt.

†*James McKay, 1827.

Educator; Buffalo, N. Y.

***John McNabb, 1832.**

Capt 9th U. S. Inft. Mex. War; C. S. A.; New Orleans.

†John W. Moores, 1823.

Lt. U. S. N.

***Luther Rawson Marsh, 1829.**

Lawyer and author; Middletown, N. Y.

***Junius Spencer Morgan, 1829.**

Merchant; partner George Peabody & Co., London; Pres. Firm J. S. Morgan & Co., Bankers, London, Eng. 1862-90; Mem. Gov. Footguards, Hartford, Conn., 1838-41; London, England.

***Joseph Anthony Mower.**

Maj. Gen. U. S. Vol., Civil War; Washington, D. C.

***Isaac Edward Morse, 1828.**

Lawyer; Mem. Cong. 1844-51; Att. Gen. La. 1851; U. S. Min. Colombia, 1856; New Iberia, La.

***Ralph L. North, 1828.**

Lawyer; author; Natchez, Miss.

***William Henry Noble, (A. M.) 1829.**

Lawyer; Col 17th Conn. Vols. & Bvt. Brig. Gen. Civ. War; E. Bridgeport, Conn.

***Thomas R. Owen, 1828.**

Lawyer; Politician; Wilmington, N. C.

***Frederick W. Partridge, 1832.**

Lawyer, served in the Mexican War; Col. 13th Ill. Regt. Vols and Brev. Brig. Gen; U. S. Consul Gen., Bangkok, Siam, 1869-77; Sycamore, Ill.

†*William P. Parrott, (Parrowt), 1827.

Entered from Mass; Civil Eng.

***Hiram Paulding, 1823.**

Rear Admi. U. S. N.; Lloyds Harbor, L. I.

***Hamilton Elliott Perkins, 1824.**

Lawyer; Manufacturer; Judge of Probate, 1855-74; Concord, N. H.

***Edward Elisha Phelps, M. D., LL.D., 1822.**

Prof. Anatomy and Surg. U. V. M. 1835-38; Prof. of Materia Medica and Therapeutics, 1841-71; Prof. Emeritus 1871-80; Surg. U. S. V. Civ. War. Brev. Lt. Col.; Windsor, Vt.

***Phillip Phillips, A. M. 1826.**

Lawyer; Mem. Cong. Ala. 1853-55; Author; Washington, D. C.

***Henry J. (S.) Ranny, A. M., 1828.**

Asst. Eng. Balt. & Ohio R. R.; Ch. Eng. New Orleans, Jackson & Great Northern 1860-65; Mandeville, La.

***Truman Bishop Ransom, A. M., 1825.**

Asst. Prof. Math. N. U. 1825-27; Pres. 1843-47; Maj. Gen. Vt. Militia 1836-44; Col. 9th U. S. Inft. Mex. War; killed at battle of Chepultepec; Norwich, Vt.

William Huntington Russell, M. D., A. M., 1828.

Educator; Pres. Collegiate and Commercial Inst. New Haven, Conn; Maj. Gen. Conn. Militia 1862-65; New Haven; Conn.

***John Dennison Russ, M. D., 1824.**

Physician; Supt. of Hospital Service for the Grecian Patriots 1827-30; Pompton, N. J.

***Moncure Robinson, A. M., LL. D., 1824.**

Ch. Eng. Pottsville & Danville R. R. Pa. 1828; Phila. & Reading 1834-40; Norfolk, Va.

***William R. Sanford, 1826.**

Stockman; Orwell, Vt.

***Augustus Futzwhylsson (Fenton) Seaton, 1828.**

Editor; Wash. D. C.

***Theodore Sedgwick, 1826.**

Lawyer; Stockbridge, Mass.

***Horatio Seymour, A. M., LL.D., 1828.**

Lawyer; Gov. N. Y. 1852, 1862-64; Pres. Nominee Democratic Party, 1868; Utica, N. Y.

***Horatio Seymour, 1829.**

Mayor Buffalo; Buffalo, N. Y.

***Thomas Henry Seymour, A. M., LL. D., 1829.**

Lawyer; Editor; Mem. Cong. from Conn. 1843; Gov. Conn. 1850-53; U. S. Min. Russia 1853-57; Maj. 9th U. S. Inft. Mex. War; Hartford, Conn.

Bernard Shipp, A. M., 1827.

Historian; Louisville, Ky.

***Seneca Galusha Simmons, 1828.**

Maj. U. S. A. Col. 5th Pa. Reserves and Brev. Brig. Gen. Civ. War; Harrisburg, Pa.

Isaac Townsend Smith, A. M., 1830.

Merchant; Financier; Consul Gen. to the U. S. for Siam; New York, N. Y.

***Edward Stanley, 1829.**

Lawyer; Att. Gen. N. C. 1847; Mem. Cong. 1837-43, 1849-58; Mil. Gov. of Eastern N. C. during Civ. War; San Francisco, Cal.

***Elihu William N. Starr, 1829.**

Manufacturer; Adj. Gen. Conn. 1859-63; Middletown, Conn.

†*Josiah Tattnall, 1823.

Capt. U. S. N.; Commodore C. S. N. Civ. War; Savannah, Ga.

***George W. Taylor, 1826.**

Midshipman U. S. N.; 1827-31; Capt. U. S. A. Mex. War; Col. 2d N. J. Vols. Civ. War. Brig. Gen.; High Bridge, N. J.

***Robert H. Temple, 1825.**

Q. M. Gen. N. Y. 1859-60; Albany, N. Y.

***Charles Stockbridge Thompson, 1827.**

Pomfret, Conn.

*Ebenezer Thompson,

Pomfret, Conn.

*George Muirson Totten, 1827.

Ch. Eng. Canal del Dique, Columbia, S. A.; Ch. Eng. Panama R. R. 1850-1875; Eng. with M. Ferdinand de Lesseps on Panama Canal; New York, N. Y.

*James Van Ness, 1825.

Lawyer; San Francisco, Cal.

*Henry Van Rensellaer, 1827.

Lt. U. S. A.; Mem. Cong. from N. Y. 1841-43; Col. & Inspec. Gen. Civ. War; Albany, N. Y.

*Thomas Beale Wales, 1825

Merchant; Boston, Mass.

*Thomas Blackburn Washington, 1827.

Planter; Jefferson Co., Va.

*James Harman Ward, 1823.

Capt. U. S. N.; Prof. at Annapolis; Author; Hartford, Conn.

*Sumner Allan Webber, 1824.

Lawyer & Merchant; Rochester, Vt.

*Gideon Welles, A. M. 1826.

Editor; Sec. Navy 1861-69; New York, N. Y.

*Henry Walton Wessels, 1828.

Col. and Brev. Brig. Gen. U. S. A.

†*William O. Wright, 1832.

Educator; Mass. or N. H.

*John James De Wolf, M. D.

Physician; Providence, R. I.

*Franklin Wright, 1832.

Civ. Eng. and Lawyer; Battersea Place, Va.

†*Asa Wheeler, Jr. 1828.

Cavendish, Vt.

†*Hiram P. Woodworth, 1825.

Ch. Eng. Ill. Improv. Commis. 1838-?; Peru or Chicago, Ill.

*David Minton Wright, M. D., 1829.

Physician; Norfolk, Va.

1836.

*Amasa Gleason, A. M.

Educator; Gloucester, Mass.

†Joseph Wood Horr, M. C. E.

Civil Engineer on railroads in the South.

*Alonzo Jackman, A. M. LL. D.

Adj. Gen. of Vt. during the Civil War and Prof. Mathematics at N. U. 1837-74; Northfield, Vt.

*Henry Villiers Morris, M. C. E.

Civ. Eng. Wabash R. R.; Mat. Civil War; St. Louis, Mo.

1837.

*Joseph W. Curtis, A. B.

Lt. U. S. Navy; Warren, Vt.

Cyrus Hyde Fay, LL. D.

Clergyman; Brooklyn, N. Y.

*Robert Frazier, A. B., M. C. E.

Civ. Eng. and Pres. Wilmington and Reading R. R.; Philadelphia, Pa.

*Horatio Gates Gilbert, A. B.

Cashier, Albany, N. Y.

*George Washington Gilson, A. M.

Civil Engineer; Chicago.

†Samuel B. Grice, M. C. E.

Civil Engineer; Phila., Penn.

Eugene Eckel McLean, A. B.

Col. C. S. A.; Financial Engineer; New York City.

†Winfield Scott Sherwood, A. M.

Civil Engineer; Politician; California.

*Joseph Herman Streeter, A. B.

Physician; Roxbury, Mass.

*Sebastian Russell Streeter, A. B.

Capt. 61st Mass. Vols.; Lawyer; Woodstock, Vt.

*Josiah Swett Jr., A. M., D. D.

P. E. Clergyman; Highgate, Vt.

†Joseph G. Tilden, M. D.

Physician; Vt. (?)

*Thomas Jefferson Whipple, A. B.

Col. 4th N. H. Vols.; Lawyer, Laconia, N. H.

1838.

Jay Dyer, A. B.

Capt. Co. I, 32d Ohio Vols. Civil Eng.; Galena, Ohio.

*Charles Denison Lewis, M. C. E., M. D.

Physician; Dry Ridge, Ky.

†*Jehiel Lillie, A. B.

Lawyer; Selma, Ala.

†John C. Murray, A. B.

Civil Eng.; Middleburg or Middlebury, Va.

*Johnson Shedd, A. B.

Supt. Military School; Portsmouth, Va.

†Charles Slack, M. C. E.

Civ. Eng. on Ill. river survey 1838-40; Cal. 1849-?

Collins Wright, A. B.

Lawyer; Dayton, Ohio.

1839.

†George Bradley Adams, A. B.

Bowling Green, Ky.

Cyrus Barrett Burnham, M. C. E.

Banker and real estate; St. Louis, Mo.

Friend Perry Fletcher, A. B.

Merchant; Bridgeport, Vt.

James Ashton Hall, A. B.

Lawyer; Reading, Vt.

*Sumner Africus Howard, A. B.

Universalist clergyman; N. H. and Mass.

†Walter B. Hurlbut, A. B.

Pawlet, Vt.

†Joshua Thompson Lincoln, A. B.

Physician; Cornish, Maine.

*William Livingstone, A. B.

Prof. Nat'l Science, Lombard Univ. Galesburg, Ill.

***Caleb Lyon, LL. D.**

Gov. Idaho; U. S. Counsel; Lyonsdale, N. Y.

***Samuel Marsh, A. B., M. D.**

Lieut. Col., 16th N. Y. Vols.; Prof. Mathematics; St. Lawrence Academy, Potsdam, N. Y.

***Asa Crosby Marvin, A. B.**

Col. 60th Regt. Mo.,Nat'l Guard, 1860-62; Pres. Tebo. and Nesho. R. R.; Sedalia, Mo.

***Samuel Nichols, Jr., M. C. E.**

Physician; Brattleboro, Vt.

***Jonathan Tarbell, A. B.**

Brig. Gen. U. S. Vols.; Chief Justice Supreme Court of Miss.; Washington, D. C.

***Youngs Vail Wood, A. B.**

Lawyer; Dayton, Ohio.

***Chauncey Wright, M. C. E.**

Merchant; Lexington, Miss.

1840-1.

†Edward Crowell, A. B.

Civil Eng; Perth Amboy, N. J.

†Thomas D— Fell, A. B.

C. S. A.?; Charleston, S. C.

Sylvester M— Hewitt, A. B., M. D.

Capt. 26th Ohio Vols.; Surg. 136 Ohio Vols.; Physician; Cincinnati, Ohio.

***Lucius Hurlbut, A. B.**

Business; Chicago, Ill.

†Philander Palmer, A. B.

Entered from Langdon, N. H.; Lawyer.

***Alvin Roundy, A. B.**

Teacher; Unity, N. H.

†*Joseph W— Shedd, A. B.

Entered from Washington, N. H.

†Daniel Tullar, A. B.

Entered from Royalton, Vt.; Lawyer, Washington, D. C.

1840-2.

***Simeon Wheeler, A. B., LL. B.**

Teacher and lawyer, Demopolis, Ala.

1841.

Alvan Earl Bovay, A. M.

Maj. 16th Wis. Vols.; Lawyer and politician; Brooklyn, N. Y.

***Andrew Jackson Dorn, A. B.**

2nd Lieut, U. S. A. Mex. war; Col. C. S. A.; State Treas. Texas; Austin, Texas.

***Daniel H—Dustin, A. B.**

U. S. District Attorney; St. Paul, Minn.

***Cogswell Eastman, A. B.**

Merchant; Boston, Mass.

***Ephraim Flint, A. B.**

Sec. of State, Maine; Dover, Maine.

†John Harris, A. B.

Entered from Yorkshire England or New York City.

1841-2.

***Augustine L. C. Major, A. B.**

Private, Mosby's Rangers, C. S. A; farmer; Brandy Station, Virginia.

†Luke E—Miller, A. B., M. D.

Physician; ——? Minnesota.

Benjamin Franklin Nalle, A. B., M. C. E.

Col. Virginia militia, C. S. A.; farmer; Rapidan, Va.

***Henry Pierce, A. B.**

Georgetown, D. C.

***David Richardson, M. C. E.**

Teacher, Clinton, Ill.

James Van Allen Shields, A. B.

Sergt. Maj. Mo. Vols. Mexican war; adj. 2d Regt. Gov't employees; District Columbia; Civil War, Washington, D. C.

Charles Alexander Silver, A. B.

Merchant and capitalist, Brooklyn, N. Y.

***Justin Edwards Stevens, A. B., M. D.**

Surg. 9th U. S. Regulars, Mexican War; Phys., Boston, Mass.

1841-3.

***Stephen N— Warren, A. B.**

farmer; Orwell, Vt.

***Thomas Williams White, A. B.**

Capt. Ga. Vols. C. S. A.; Capt. C. S. A. Eng's, Milledgeville, Ga.

1842.

†*Oel Alfred Buck, A. M., M. C. E.,

Prof. Mathematics and tactics, Capt. Alden Partridge's Military School, Portsmouth, Va.

Hiram Clark, A. B.

Physician; Lawrence, Kansas.

***Charles B— Crowingshield, M. C. E.**

Capt. Co. E. 1st Mass. Vols. Mex. war; civil engineer; Salem, Mass.

William Watts Hart Davis, M. M. S., A. M.

Capt. Mex. war; Col. 104 Penn. Vols. Bvt. Brig. Gen.; Pres. Bucks Co. Hist. Soc., Author and Editor, Doylestown, Pa.

1842-1.

†*George Washington Franklin Emerson, M. M. S., A. B.

Penn. Vols. Civil War. Lawyer; Harrisburg, Penn.

***Joseph Washington Frizell, M. M. S.**

Lieut. Col. 11th Ohio Vols.; Col. 94th Ohio Vols.; Bvt. Brig. Gen.; Civil Engineer, Vancebuig, Ky., and Greenville, Ohio.

John Fuller Jennison, A. B., M. D.

Physician; Keene, N. H.

***William Little Lee, A. M.**

Chief Justice; Sandwich Islands.

†*Otis Mason Marsh, A. B., M. C. E.

Capt. Texas Vols. C. S. A.; Civil Engineer, Lake Charles, La.

†*Benjamin Franklin Shepard, A. B. M. C E.

Entered from Milton, N. H. and Boston, Mass.

†*Hiram M— Storrs, A. B., M. M. S.

Moriah, N. Y.

1842.

*Daniel Thompson, M. C. E.

Planter; "Calumet Plantation," Patterson, La.

*Joseph Cornwall Wright, A. B.

Lieut. Col. 72nd Ill. Vols: Merchant; Chicago, Ill.

1843.

*Lemuel Winslow Blanchard, A. B.

Prin. of Schools in Vt. and N. H., Wilmington, Vt.

†Edward Bushell, A. B.

Utica, N. Y.

†Henry H— Cary, A. M.

Physician; La Grange, Ga.

†Jabez Cushman Crocker, A. B.

Capt. 55th Ill. Vols.; Lawyer; Lincoln, Neb.

*Asa Howe, C. E., M. D.

Division Eng., Chicago and North Western R. R.; Eng. Huntington and Broadtop R. R., Pa; Ch. Eng. Wells River R. R.; Northfield, Vt.

1843.

*Henry Hancock, A. B.

Lieut. Mex. war; Maj. 4th Calif. Vols.; Civil Eng. and lawyer, Los Angeles, Cal.

†*Stephen Barry Lee, A. B.

Maj. U. S. Vols.; Sandy Hill. N. Y.

*Robert Houston Milroy, A. B., M. M. S.

Capt. 1st Ind. Vols. Mex. war; Col. 9th Ind. Vols.; Maj. Gen. U. S. Vols.; Supt. Indian affairs, Washington Territory; Olympia, Wash.

†*William Patterson Paul, A. B.

Capt. Tenn. Vols., C. S. A.; Planter, Memphis, Tenn.

*William Ripley Stone, A. B.

Windsor, Vt.

1845.

*Charles Edwin Denison, A. M.

Ch. Eng. Marietta and Columbia R. R.; Peoria and Oquawka; Peoria and Burlington; Capt. 8th Ill. Vols.; Capt. and Bvt. Maj. 18th Inf. U. S. A.; Peoria, Ill.

*Edward Brush Kellogg, A. B., M. M. S. C. E.

Surveyor Santa Cruz Co., Col.; Ch. Eng.; Peoria and Burlington R. R.; Knoxville, Ill.

*Orlanda Dana Miller, M. C. E., M. M. S., A. M., D. D.

Univ. clergyman; Oriental scholar and student; So. Merrimack, N. H.

*William Addison Newman, M. M. S., A. M.

Bvt. 1st Lieut. 9th U. S. Inf. (Ransom's) Mex. war; U. S. Inspector Customs; Toronto, Canada.

†*Daniel S. C. M. Potter, A. B., D. D.

Episcopal clergyman; Arkansas.

Simeon Manly Preston, A. M.

Prof. N. U.; Asst Eng. Conn. River Valley R. R Northern (N. H.) R. R.; Chicago and Northwestern R. R.; Ch. Eng. Natchez, Jackson and Columbus, Chicago, Burlington and Pacific; Cons. Eng. Chicago, Rock Island and Pacific; Toledo, Askaloosa and Western R. R.; Capt. and Asst. Adj. Gen; Col. 58th U. S. C. I. and Brev. Brig. Gen., Civil Eng. and Banker; Seattle, Wash.

Otis Seth Tenny, A. M., LL. D.

Maj. 2nd Ky. Cav. C. S. A.; Prin. of Schools; Lawyer; Lexington, Ky.

*John Mills Barnard, A. M.

On staff 1st Texas Mounted Vols., Mexican War; Civil Engineer; Rochester, N. Y.

1846.

†F— T— Aba, M. D.

Vermont. (?)

*Alexander Moses Bennett, A. M.

Westmoreland, N. H.

*Charles Willard Burt, A. B.,

Lawyer; Detroit, Mich.

†Edwin C— Cross, M. D.

Vermont?

Henry Louis Slafter Haskell, A. M.

Mem. 11th Ill. Vols.; Lawyer; Bloomington, Ill.

*Lucius Darwin Pierce, A. M.

Lawyer; Winchendon, Mass.

1847.

George Williamson Balloch, A. M., LL. D.,

1st Lieut. 5th N. H. Vols.; Lieut. Col. and Ch. commissary 11th and 20th Army Corps; Brev. Brig. Gen. U. S. Vols. Claim agent, Washington, D. C.

*Napoleon Boardman, M. C. E.

Res. Eng. Rock River Valley (Wis.) R. R.; Ch. Eng. Milwaukee and La Cross; Michigan Air Line; Niles and So. Bend; Fond-du-Lac and Lake Superior; Chippeway Falls and Eastern Grand Trunk R. R.; 1st Lieut. 2d Wis. Cav.; Capt. 2d Mo. Light Artillery, Fond-du-Lac, Wis.

Gustave Arvillien Breaux, A. B. (LL. B.)

Col. 30th La. Vols. C. S. A.; Lawyer and Planter, Lafayette, La.

*Albert Buswell, A. B., (M. D.)

Asst. Surg. 8th Vt. Vols.; Phys., Togus, Maine.

*Francis Xavier Chase, M. C. E.

Civil Eng.; St. Paul, Minn.

*Paul Raymond Kendall, A. B.

Founder and First Pres, Lombard University; 1st Lieut. and Q. M. 12th Mo.

Vols.; Q. M. on staff of Gen. Hatch Army of Tennessee; Pres. Clinton Liberal Inst., Fort Plain, N. Y.; Smithon College, Logansport, Ind., Galesburg, Ill.

***James Garfield Murphy, A. B., (M. D.)**

Physician; Brattleboro, Vt.

†Stephen H. Nichols, A. M.

Weathersfield, Vt.

***Caleb Oliver, A. B.**

Prin. of Schools; Lawrence, Mass.

John Gideon Parker, A. M., M. D.

Physician; Warner, N. H.

John Van Ness Standish, A. M., Ph., D. LL. D.

Prof. Mathematics Lombard Univ. 1854-92; Pres. 1892-95; Author; Galesburg, Ill.

***Solomon Mason Whipple, A. B., M. D.**

Pres. N. H. Med. Soc.; New London, N. H.

***Charles Rollo Wright, A. B.**

Civil Eng. and Lawyer; Forrest City, Iowa.

1849.

***Clinton Spaulding Averill, B. S., A. M.**

Lawyer and Banker, Milford, N. H.

***Newell Gleason, B. S., C. E.**

Ch. Eng. Cincinnati, Peru and Chicago R. R.; Dubuque Western; Pittsburg, Fort Wayne and Chicago; Iowa and Lansing; Indianapolis and Chicago; Grand River Valley; Grand Rapids and Lake Shore; Mansfield, Coldwater and Lake Michigan; Chicago, Danville and Vincennes; Col. 87th Ind. Vols.; Brev. Brig. Gen. U. S. Vols.; Chicago, Ill.

***Jacob Parker Gould, B. S.**

Civil Eng. New York Cent. R. R.; Stoneham Branch R. R.; Maj. 13th Mass. Vols; Col. 59th Mass. Vols.; Stoneham, Mass.

***Jesse Augustus Gove, B. S.**

Lawyer; Capt. 10th U. S. Inft.; Col 22d Mass. Vols.; Concord, N. H.

William Partridge, B. S.

Civil Eng.; 1st Lieut. 43d Wis. Vols.; Topographical Eng. U. S. Vols.; Normal, Ill.

***Calvin Lewis Robinson, A. M.**

Lawyer; Jacksonville, Fla.

1850.

Grenville Mellen Dodge, C. E., A. M., LL. D.

Ch. Eng., Union Pacific R. R.; California and Texas; Texas and Pacific; Missouri; Pres. Missouri, Kansas and Texas; St. Louis, Des Moines and Northern; Des Moines Union Ry.; Denver, Texas and Fort Worth; Union Pacific, Denver and Gulf Ry.; Western Industrial Co.; Pres. New York, "N. U." Alumni Assn.; Col. 4th Iowa Vols; Maj. Gen. U. S. Vols. in command 16th Army Corps; M. C. from Iowa; New York City.

Obed Foss, B. S.

Lumber Manufacturer, Houlton, Maine.

Ormando Wyllis Gray, C. E.

Civil Eng.; Surveyor and Publisher of numerous County and State Maps and Atlases; Bernardston, Mass.

†Henry Hobart Gillum, B. S.

Civil Eng.; Capt. and Asst. Q. M.; Kansas, Vols.

***Francis Miner Lincoln, B. S. (M. D.)**

Asst. Surg. 9th Mass. Vols.; Surg. 35th Mass. Vols.; Asst. Surg. U. S. A.; Boston, Mass.

***Richard Sullivan Little, C. E.**

Location and Constructing Eng. Rock Valley R. R.; Malwaukee and Mississippi; Milwaukee and Watertown; Ranchman; Littleton, Colo.

***Lafayette Washington Pierce, A. M.**

Lawyer; Gainesville, Ga.

†Joseph E. Young, B. S.

Entered from Lowell, Mass; is said to have located in Chicago.

1851.

†Samuel Batchelder, A. M.

Prin. of schools; said to have been an officer in the C. S. A.; Kemper Springs, Miss.

Luther Loren Baxter, B. S.

Maj. 4th Minn. Vols.; Col. 1st. Minn. Heavy Artillery; Judge 7th Judicial District; Fergus Falls, Minn.

Sullivan Holman McCollister, A. M., D. D.

Univ. clergyman; Prin. Westbrook (Maine) Seminary; Pres. Buchell Col. Akron, Ohio; Traveler and author; Marlboro, N. H.

***John Baldwin Thayer Mead, B. S.**

Ch. Eng. Terre Haute and Alton R. R.; 1st. Lieut. Adj. 28th Ill. Vols.; Bunker Hill, Ill.

***Ephraim Morris, A. M.**

Manufacturer and Banker; Hartford, Vt.

***Dunbar Richard Ransom, B. S.**

Capt. and Brev. Col. U. S. Art. Fort Worth, Texas.

***Thomas Edward Greenfield Ransom.**

Civil Eng. Ill; Col. 11th Ill. Vols.; Brig. Gen. and placed in command 17th Army Corps in Atlanta Campaign. Brev. Maj. Gen. U. S. Vols.; died near Rome, Ga., just before receiving his commission as Maj. Gen.

***Lewis M—Strobel, B. S.**

Planter; Capt. 8th Texas Cavalry or Terry's Texas Rangers, C. S. A.; Chenango, Texas.

†*Solon Shedd, B. S.

Civil Eng.; Served in Ill. Vols.

1852.

***Charles Young Denniston, A. B.**

Civil Eng. and Real Estate; Hudson, Wis.

***Harvey Webster Emery, B. S.**

Lawyer; Lieut. Col. 5th Wis. Vols.; Madison, Wis.

***William Henry Greenwood, C. E.**

Capt. 51st Ill. Vols; Lieut. Col. and Topographical Engineer 4th Army Corps; Ch. Eng. Kansas Pacific R. R.; Denver and Rio Grande; Cons. Eng. Atchison, Topeka and Santa Fe (through "Royal Gorge") Colo.; Marion and McPherson; Ch. Eng. Mexican National R. R.; Mem. Am. Soc. C. E., Putney, Vermont.

***Henry H— Howard, A. B.**

Lawyer; 1st Lieut. 21st Iowa Vols.; Lawrence, Kansas.

***William Henry Hubbard, B. S.**

Civil Eng. and in business, Duluth, Minn.

***Samuel Curtis Simonds, B. S.**

In Business; Hudson, Wis.

John Parker Towne, A. B.

Banker and Lawyer, Edgerton, Wis.

1853.

James Edward Ainsworth, C. E.

Asst. Eng. Govt. Surveys, Iowa; Cons. Eng. Iowa Falls and Sioux City R. R.; Ch. Eng. Cedar Falls and Minnesota and various railroads now operated by the C. M. and St. Paul; Locating Eng. St. Louis and Hannibal; Ch. Eng. Fremont, Elkhorn and Missouri Valley and Sioux City and Pacific; Capt. 14th Iowa Vols.; Moline, Ill.

***George Preston Greely, B. S. (M. D.)**

Physician; Surgeon; 4th N. H. Vols. Nashua, N. H.

John Quincy Adams McCollister, (M. D.) LL. D.

Physician; Surg. 53rd Mass. Vols. Waltham, Mass.

†Henry Osgood Herrick, B. S.

Planter; in So. Carolina, Anderson ?

1854.

***Clinton Spaulding Averill.**

(See class of 1849.

†Thomas S— Brownell.

Planter; Greenville, So. Carolina.

George Edwin Bryant, LL. D.

Capt. 1st Wis. Vols.; Col. 12th Wis. Vols.; Brev. Brig. Gen. to command 1st brigade, 3d division 14th Army Corps; Lawyer, Madison, Wis.

***William H— Ensign, B. S., M. D.**

Surg. U. S. Army, New York City.

Henry Oakes Kent, A. M., LL. D.

Col. 17th N. H. Vols.; Lawyer and Banker; Lancaster, N. H.

***William Day Munson, B. S.**

Lieut. Col. 13th Vt. Vols.; Farmer and Surveyor; Colchester, Vt.

Jonas H— Platt, B. S.

Banker and Marine Insurance Broker; New York.

***Zephaniah Platt, B. S.**

Merchant; Hudson, Wis.

George Priest Conn, A. M., M. D.

Asst. Surg. 12th Vt. Vols.; Prof. Hygiene Dartmouth Med. College; Physician Concord, N. H.

1855.

***Delano Franklin Andrus, B. S.**

Merchant; Somonauk, Ill.

†Samuel Edgar Briggs, B. S.

Claremont, N. H.

Bela Stevens Buel, B. S.

Civil Eng.; Agent Wells Fargo Express Co.; Spencerport, N. Y.

William Smith Burton, A. B.

Editor, No. Adams (Mass.) Transcript; Univ. Clergyman; Maj. 3rd Mich. Cavalry; Printer; New York City.

***Arthur Chase, B. S., LL. B.**

Lawyer; Claremont, N. H.

George Dewey, B. S., M. M. S., LL. D.

Admiral U. S. Navy, Washington, D. C.

Charles Hatch Long, B. S.

Capt. 6th N. H. Vols.; Lieut. Col. 17th N. H. Vols; Col. 1st N. H. Heavy Artillery; Agent B. and M. R. R.; Claremont, N. H.

Col. Charles Hildreth Lewis, B. S., LL. D.

Civil Eng. Minn.; Capt. and Brev. Lieut. Col. 16th U. S. Inf.; Pres. "N. U." 1880-1890; Broker; New York

1856.

***George Parsons Buel, B. S.**

Civil Eng. Colo.; Col. 58th Ind. Vols.; Commanded "Pioneer Brigade" Army of the Tennessee; Lieut. Col. 29th U. S. Inft.; Col. 15th Inft.; Lawrenceburg, Ind.

***Arthur Chase, A. B.**

(See class 1855

***Frederick Howard Farrar, B. S.**

Civil Eng. La.; Lieut. Col. 1st La. Regulars; Point Coupe, La.

***Frederick Norton Freeman, B. S.**

(See class of 1857.

Levi Gleason Kingsley, B. S.

2d Lieut. 1st Vt. Vols.; Maj. 12th Vt. Vols.; O. M. Gen. Vt. Nat'l Guard; Brig. Gen. Vt. Nat'l Guard; Merchant; Rutland, Vt.

†Lorenzo Potter, B. S.

1st Lieut. 8th Ill. Vols.; Chicago, Ill.

***Augustine E— Smith, B. S.**

Clarendon, Vt. Ohio?

***William H—Chase Strong, B. S.**

Col. C. S. A.; Pensacola, Fla.

Arba Nelson Waterman, M. S., LL. D.

Lawyer; Lieut. Col. 100th Ill. Vols.; Judge Circuit Court 1886-90; Judge Appellate Court; Chicago, Ill.

Edward Bancroft Williston, B. S.

Col. 6th U. S. Artillery; Brig. Gen. U. S.

Vols.; Spanish War in command of Artillery Corps; Chickamauga, Ga.; Provost Marshal Gen. Manilla, P. I.; Retired 1901——; Washington, D. C.

Henry Clay Wood, A. M., B. S.

Col. U. S. A. (retired) Washington, D. C.

1857.

***Warren Clark, B. S.**

Prin. of Military Schools; State Drill Master; N. H. Vols.; Lawyer; Concord, N. H.

***Frederick Norton Freeman, B. S., A. M.**

Prin. of Military Schools; Col. N. Y. Nat'l Guard; Manager Penn. Coal Co.; Newbury, N. Y.

Elias Burton Hart, A. M.

Vice Pres. Central Crosstown Railroad Co. (N. Y. City); Capitalist, New York City.

***De Forrest Holt Merriman, B. S.**

Merchant; Phila., Penn.

Charles Foster Sayles, B. S.

Civil Eng.; No. Adams, Mass.

Harry Niles Worthen, B. S.

Lawyer; Maj. 1st Vt. Vols.; Lieut. Col. 4th Vt. Vols.; Hanover, N. H.

1858.

***George Washington Hobbs, B. S.**

Served with 6th Mass. Vols. in the defence of Washington; Attorney, New York, New Haven & Hartford R. R.; Uxbridge, Mass.

†***Frank A.— Page, B. S.**

2nd Lieut. 2nd U. S. Inft.; Lawyer; Tacoma Park, Washington.

1859.

Robert E. Hitchcock, B. S.

1st Lieut. U. S. Marine Corps; Killed at the First Battle of Bull Run; First Vermonter to fall in the Civil War; Shoreham, Vt.

†**Cyrus M.— Merriman, B. S.**

Lumber Merchant; Williamsport, Pa.

***Edgar Parker, B. S., M. D.**

Physician; Asst. Surg. 13th Mass. Vols.; Portrait Painter; Boston, Mass.

***Joseph Steadman, B. S., A. M., M. D.**

Serg't 6th Mass. Vols.; Lieut. Col 42nd Mass. Vols.; Physician; Jamaica Plains, Boston, Mass.

Archibald S. Taylor, B. S.

Capt. U. S. Marine Corps, Civil War; Pittstown, N. J.

Charles Tyler Wolcott, B. S.

Asst. Eng. Conn. River Valley R. R., Boston & Albany; Lee & Hudson; Wilmington, (Vt. R. R.); Greenfield, Mass.

1860.

***Gustavus M. Bascom, B. S.**

Lieut. Col. and Asst. Adj. Gen., 23rd Army Corps; Brev. Col. U. S. Vols.; Capt. 13th U. S. Inft.; Columbus, Ohio.

†***George W. Field, B. S.**

Capt. 59th Mass. Vols.; Northfield, Mass.

Charles Morton, C. E.

Asst. City Eng., Boston; Eng. Surveyors Office, 1867-85; Supt. of Sewers; mem. Am. Soc. C. E.; Consulting Eng.; Boston, Mass.

Edmund Rice, B. S., A. M.

Col. 19th Mass. Vols. Col. 6th Mass. Vols. Spanish American War; Col. 26th U. S. Vols. P. I.; Col. 19th U. S. Inft.; Brig. Gen. (retired), Boston, Mass.

Samuel Walker Shattuck, C. E., A. M.

Sergt. Maj. 6th Mass. Vols.; Capt. 8th Vt. Vols.; Brigade Adj.; Pres. and Vice Pres. N. U.; Dean of the Dep't of Mathematics and Business Manager, University of Ill.; Champaign, Ill.

***Sumner Timothy Smith, B. S., M. D.**

Master's Mate U. S. N.; Physician; Athol, Mass.

1861.

Charles Albert Curtis, A. M.

Military Instructor; 6th Maine Vols.; Acting Asst. Adj. Gen. on the staff of Gen. W. S. Hancock; 1st Lieut. and Brev. Capt. U. S. A.; Pres. "N. U."-1875-1880; author; Commandant, University of Wisconsin, Madison, Wis.

***Charles Bradley Stoughton, A. M., LL. D.**

Col. 4th Vt. Vols.; Brev. Brig. Gen. U. S. Vols.; Lawyer; Bellows Falls, Vt.

1862.

Theodore Harvey Kellogg, A. M., M. D.

1st Lieut. 7th squadron, R. I. Cavalry "College Cavaliers"; Physician; author; Supt. of various Insane Hospitals, N.Y., Riverdale, N. Y.

1863.

Henry Elijah Alvord, C. E., LL. D.

1st Sergt. 7th squadron R. I. Cavalry "College Cavaliers;" Maj. 2d Cavalry; Mass. Vols.; Capt. 10th U. S. Cavalry; Prof. Military Science, Mass. Agricultural Col.; Pres. and director of Agricultural Colleges in Maryland, New York, Oklahoma, and New Hampshire; Chief Dairy Division U. S. Agrl. Dept., Washington, D. C.

Charles Henry Atwood, B. S.

Merchant; St. Albans, Vt.

***George Alonzo Bailey, B. S.**

Priv. 7th Squadron R. I. Cavalry; Capt. 11th Vt. Vols.; Woodstock, Vt.

Curtis Sawyer Barrett, B. S.

Capt. and Q. M. U. S. Vols.; Capitalist, Cleveland, Ohio.

***Charles O— Bradley, B. S.**

1st Sergt. 1st N. H. Vols.; Capt. 13th N. H. Vols; Capt. N. H. Heavy Artillery; Capt. 20th U. S. Inft.; Concord, N. H.

George Albert Converse, B. S., A. M.

Rear-Admiral U. S. N., Washington, D. C.

Charles A. Coolidge, B. S., M. D.

Served in Civil War; Lieut. Col. 9th U. S. Inft. and in command of regiment at the taking of Peking, China, 1900; Col. 2d U. S. Inft.; Brig. Gen. (retired), Washington, D. C.

William Strong Dewey, B. S.

Priv. Co. B. 7th Squadron R. I. Cavalry; Capitalist and Manufacturer; Quechee, Vt.

William Haven, B. S.

1st Lieut. 16th N. H. Vols; Merchant; Otumwa, Iowa.

***Rufus Leander Moses, B. S.**

1st Sergt. 3rd Vt. Vols.; Teacher and Civil Eng.; Randolph, Vt.

***George Hawes Ober, B. S.**

Fayetsville, Vt.

†**A.— H.— Page, B. S.**

Entered from Warren, Mass.; served in Penn. Vols.?

***Rody Patterson, Jr., B. S.**

Proprietor of Springhurst Stock Farm; Lexington, Ky.

Clayton Eugene Rich, B. S.

Capitalist; New York City.

***Charles Edward Steele, B. S.**

Windsor, Vt.

1864.

Lemuel Abijah Abbott, B. S.

Capt. 10th Vt. Vols.; Capt. 6th U. S. Cav.; Brev. Maj. U. S. A.; (Retired 1883) Author; Barre, Vt.

Edward Dean Adams, M. S.

Member firm Winslow, Lanier & Co., bankers, 1878-93; Railroad Organizer; Pres. Cataract Construction Co.; Chairman Board of Directors, Northern Pacific R. R.; Fellow Amer. Soc. C. E.; Representative Deutsche Bank, Berlin, Germany; New York City.

†**Warren Franklin Bascom, B. S.**

Civil Eng., Whitehall, N. Y.

***Julius Jacob Estey, B. S., A. M.**

Brig. Gen. in command of Vt. Nat'l Guard; Pres. Estey Organ & Piano Co.; Brattleboro, Vt.

†**William Gerrish, B. S.**

Chelsea, Mass.

***Charles Daniel Gregory, B. S.**

Merchant; St. Louis, Mo.

Dwight Henry Kelton, A. M., LL. D.

Mem. 98th N. Y. Vols.; Capt. 115 U. S. C. I.; Capt. U. S. Inft. retired in 1888; Author, Montpelier, Vt.

Charles Nelson Kent, B. S.

1st Lieut. 17th N. H. Vols.; Historian of regiment; Mem. firm Geo. P. Rowell & Co., New York, New York.

Thomas Jefferson Lasier, B. S.

Chief Clerk, Bureau and Supplies, Navy Dept., Washington, D. C.

†**Robert Chandler Lord, B. S.**

1st Lieut. 3d. U. S. Inft.; Boston, Mass.

†**Frederick Halsey McCulloch.**

Virginia (?)

Ralph Metcalf, B. S.

1st Lieut. Penn. Nat'l. Guard; Receiver Dime Savings Bank, Chicago, Ill.

Arthur Paine Morey, B. S.

Priv. 7th Squadron R. I. Cavalry; Capt. 22d U. S. C. I.; Brev. Maj. U. S. Vol.; Vt. State Drill Master; Banker, Sedalia, Mo.

†**John Holbrook Osgood, B. S.**

Capt. U. S. C. I.; Pomfret, Conn.

Dudley Farley Phelps, B. S., LL. D.

Adj. 20th U. S. C. I.; chief law officer, U. S. Custom House; Lawyer, New York.

Henry Moses Phillips, A. M.

Priv. 7th Squadron R. I. Cav.; 1st Lieut. and Brev. Capt. 4th Mass. Cavalry; Pres. Phillips Mf'g Co.; Mayor; Post Master; State Treas.; Sec. Mass. Mut. Life Ins. Co., Springfield, Mass.

***Abbott Allen Shattuck, B. S., A. M.**

Corp. 6th Mass. Vols. in defence of Washington; Vt. State Drill Master; Capt. 25th U. S. C. I.; Kansas City.

Charles Francis Thorndike, B. S.

Beverly, Mass.

***Charles Foster Tillinghast, Jr., B. S.**

1st Lieut. and Adj. 7th Squadron, R. I. Cavalry; Civil Eng.; Pittsburg, Penn.

***Francis Asbury Sawyer, B. S.**

Member firm of F. A. & J. Sawyer, and Charles Sawyer, Woolen Mfg'rs; Dover, N. H.

1865.

†***Frank Timothy Bottomly, B. S.**

Cherry Valley, Mass.

†***John Curry Boyd, B. S.**

Boston, Mass.

Oscar Barron Child, B. S.

Adj. 8th Vt. Nat'l Guard; Railway Mail Clerk; Deland, Fla.

John Jasper Dewey, M. S.

Pres. A. G. Dewey & Co., Woolen Mf'g Co., Quechee; Pres. Woodstock R. R., Quechee, Vt.

Joseph Hiram Goulding, A. B.

1st Lieut. 6th U. S. C. I.; Sec'y and Treas. Dorset Marble Co.; Treas. Wilmington Savings Bank, Wilmington.

Henry Augustus Howard, B. S.

Priv. 60th Mass. Vols.; Lawyer; District Attorney Warren Co.; Glen's Falls, N. Y.

William Woodbury Howard, B. S.

Gov't Surveyor Minn; Manager Gas Savings Co., St. Paul, Minn.

John Swift Richards, M. S. (LL. B.)

Priv. 60th Mass. Vols; Lawyer; New York.

Benjamin Kearney Roberts, B. S.

2nd Lieut. 7th Iowa Cavalry; Capt. and Asst. Adj. Gen. U. S. Vols.; Brev. Maj. U. S. Vols.; Col. U. S. Artillery Corps; Washington, D. C.

†**Charles Henry Smart, B. S.**

In Business; Manchester, N. H.

Jesse Bishop Smith, B. S.

Lieut. U. S. N.; Strafford, Vt.

1866.

William B.— Eaton, Jr.

Purser Bangor & Boston S. S. Co.; Boston, Mass.

†***William Chauncey Hayden Needham, B. S., M. D.**

Priv. 60th Mass. Vols.; Physician; Columbus, (?) Ohio.

***Charles Henry Reed, B. S.**

Merchant; Boston, Mass.

Reuel Small, B. S.

Lawyer; Official Reporter of Debates in the U. S. House of Representatives, Washington, D. C.

***James Anson Lawrence Whittier, B. S. LL. B.**

Lawyer; Boston, Mass.

1867.

***James Edwin Batchelder, C. E.**

Priv. Co. E 5th Vt. Vols.; 1st Lieut. U. S. Cavalry; Civil Eng.; Commandant N. U.; Northfield, Vt.

†**Seth Henry Benson, B. S.**

Blackstone, Mass.

George Partridge Colvocoresses, A. M.

Commander U. S. N.; Washington, D. C.

Harlan Page Davidson, A. M.

Pres. Highland Military Academy; Highland Park, Ill.

†**Francis Marion Gowdy, B. S.**

Broad Brook, Conn.

Myron Robert Hurlbut, B. S.

Asst. Paymaster C. V. R. R.; St. Albans, Vt.

Wesley Kimball Walton, B. S.

Lawyer; Sec. Land Dept.; Salt Lake City, Utah.

1868.

***Nathaniel Webster Ellis, C. E.**

Asst. Eng. Boston and Maine R. R.; Division Eng. on the Orequipa and Pumo R. R. in Peru; Union Pacific and Central Rys.; Water Works Eng.; Mem. Am. Soc. C. E.; Manchester, N. H.

†***Robert Grosvenor, B. S.**

Providence, R. I.

Charles Marseilles, A. M.

Editor and Author, Exeter, N. H.

George K. Sabine, B. S., M. D.

Physician; Brookline, Mass.

Charles R— Wallingford, B. S.

Lawyer; Employ. Piscataquis Pulp and Paper Co.; Montague, Maine.

William Henry Wentworth, C. E.

Priv. 184 N. Y. Vols.; Div. Eng. New York, Ontario and Western R. R.; Locating Eng. New Orleans, Mobile and Chattanooga; Houston and Texas Central; Southern Pacific; Cons. Eng. Texas Pacific; Houston; East and West Texas; Ch. Eng. Dallas and Wichita; Monterey and Mexican Gulf; Div. Eng. Mexican National; City Eng Dallas Texas; Consulting Eng. and mine owner; Monterey, Mexico.

***Frank Mortimer Whiting, B. S.**

Mem. firm F. M. Whiting & Co., Manufacturers of Silver Goods; No. Attleboro, Mass.

1869.

Charles Dole, A. M.

Prof. "N. U." 1871-86; Vice-Pres. "N. U." in business, Northfield, Vt.

Clarence Lockwood Hathaway, A. M., M. D.

Physician; Winthrop, Mass.

Henry John Skinner Howe, B. S.

Banker; Marshaltown, Iowa.

1870.

†**Job Francis Davis, B. S.**

Falmouth, Mass.

Walter Dole, B. S., A. M.

Univ. Clergyman, Northfield, Vt.

†**Alfred Briggs Gilbert, B. S.**

Lanesboro, Mass.

***Charles Gilman Tarbell, B. S.**

Priv. 8th Vt. Vols. and U. S. Signal Corps; Prin. of Schools in Vt., Ill., Minn. and Calif. Randolph, Vt.

†**George Morrison Willard, B. S.**

Hartland, Vt.

1871.

***William Griffith Owen, B. S.**

Druggist; Boston, Mass.

1872.

***Stephen Higginson Campbell, B. S.**

Cash. Colo. Nat'l Bank; Denver, Colo.

Waldo Park Clement, M. S.

Pres. Chilton Paint Co.; Mem. firm Haven & Clement, Brokers; New York, N. Y.

Samuel Dimmock Conant, B. S.

Mem. Greenfield Provisional Militia; Spanish-American War; Lawyer; Greenfield, Mass.

Charles Greenleaf Griffith, B. S.

Ch. Eng. Montana Smelting Co., Great Falls, Montana; Mining Eng. New York.

†**Francis Zeno Kimball, B. S.**

Prin. of Schools in Ill.; Libertyville, Ill.

William Lemuel Steadman, B. S.

Capt. Bat. C. Mass. Light Art.; Manufacturer; Lawrence, Mass.

James Wheeler Swett, B. S.

Prin. Rugby Academy; Wilmington, Del.

1873.

†**Alvin Morton Bailey, B. S.**

Montreal, P. Q.

Henry Augustus Burt, B. S.

Lawyer; Swanton, Vt.

***Frank Richard Bates, B. S.**

Lawyer; Northfield, Vt.

William Ripley Dorr, M. S.

Treas. and Manager Horne & Danz Mfg. Co.; Treas. Life Ins. Clearing Co.; Pres. Stanton Gold Mining Co., Arizona; Pres. Board of Trade, St. Paul, Minn.; Broker; N. Y. City.

Paris Augustus Eastman, B. S.

Manager stock farm; Mendon, Vt.

George Lemuel Huntoon, B. S.

Capt. Mass. Nat'l. Guard; Jeweler; Boston, Mass.

Cyrus Moses Johnson, B. S.

County Attorney; Detroit City, Minn.

Harry Tudor Lyman, B. S.

Cashier Amer. Express Co.; Manchester, N. H.

John Robert Moore, M. S., C. E.

Asst. Eng. N. J. Cent. R. R.; Asst. Eng. for N. Y. City; New York.

Archie Lorenzo Sheldon, B. S.

Machinery Broker; New York.

1874.

Charles Edward Field, B. S.

Comptroller Shipman White Lead Works, Chicago.

Robert Alexander Silver, B. S.

In business; Northfield, Vt.

Edward Denslow Upham, B. S.

Cashier Chas. W. Breneman & Co.; Cincinnati, Ohio.

1876.

†***Theodore Chardavoyne McIlwaine, B. S.**

Plattsburg, N. Y.

George (Henry) Delbert Thomas, B. S., Ph. B.

Reporter Boston Herald; Author; Alderman; Waltham, Mass.

***William Moser Rumbaugh, C. E., A. M.**

Capt. Penn Nat'l Guard; Commandant N. U. 1880-86; Prof. Civil Eng. 1879-86; Employ Western Electric Co.; New York.

Waldo Henry Richardson, B. S., M. D.

Mem. New York School Board; Physician, New York.

1877.

Harvey Christopher Dole, B. S., A. M.,

Journalist; Camden, N. J.

Burleigh Fulsom Spaulding, Ph. B., A. M.

1st Lieut. Vt. N. G.; Supt. of Schools, Cass Co., N. D.; Lawyer; Mem. Congress, Fargo, No. Dakota.

Robert Manson Stephens, M. S.

Merchant; Madison, N. J.

1878.

Charles Horace Spooner, B. S.

Maj. V. N. G.; Prof. of Mathematics and Commandant Vermont Academy; teacher, Fitchburg, (Mass.) Public Schools; Prof. Mathematics Manual Training School, St. Louis, Mo.

1879.

Eugene Merwin Carr, B. S., LL. B,

Brig. Gen. in command Washington N. G.; Lawyer; promoter; Seattle, Wash.

John Benjamin Johnson, C. E., A. M.

Prof. of Mathematics, N. U., 1879-90; Math. and Civ. Eng. 1890-1901; *Emeritus* Prof. Math. and Eng.; Pasadena, Cal.

1880.

Edward McClure Peters, B. S.

Lieut. U. S. Navy, Spanish-American War; Supt. Chemical Tartar Co.; Brooklyn, N. Y.

1881.

Frank Winslow Conn, (C. E.)

Civ. Eng. and Mine Superintendent. Costa Rica, S. A., Eng. Transit Co.; Phila., Pa.

Henry Martin Jones, B. S.

Manufacturer; Kingston, Mass.

Charles Wright Mead, (C. E.)

1st Lieut. 1st Mont. Vols. Spanish American War; Capt. U. S. Vols. Spanish American War; City Engineer Manila. 1901-1902; Ch. Eng. Canton-Hankow R. R. China; Canton, China.

Marshal Davis Smith, B. S.

In business and Town Representative, Northfield, Vt.

William Howard Willmarth, B. S.

In business, No. Attleboro, Mass.

1882.

George Taft Hobbs, B. S.

Civil Engineer, Uxbridge, Mass.

Malverd Abijah Howe, B. S., M. S. (C. E.)

Prof. Civil Engineering, Rose Polytechnic Inst., Terre Haute, Ind.

Fred Elton Steele B. S. (M. D.)

Physician; Member Board of Visitors, N. U.; Montpelier, Vt.

1883.

James Michael Holland, B. S. (LL. D.)

Lawyer and Financier, New York City.

Wilbur Clark Howe, B. S.

Freight Agent B. & M. R. R., Nashua, N. H.

George Roberts Miner, M. S.

Editor *New York Herald*, Paris Edition; Sunday Editor *N. Y. World*; Sunday Ed. *N. Y. Herald*, New York City.

1884.

Calvert King Mellen, M. S., A. M.

1st Lieut. N. Y. N. G.; Prof. Mathematics, Central High School; Buffalo, N. Y.

Thomas Henry Nickerson, M. E.

Merchant; Athens, Ga.

Fred Silas Parker, B. S.

Lawyer and Mayor; West Superior, Wis.

Ned Louis Sheldon, M. S., A. M.

Sec. Sons of Vt. Assn.; Lawyer, Boston, Mass.

1885.

Fred Rice Belknap, (M. D.) M. S.

Mem. State Board of Health; Physician; Benton Harbor, Mich.

Myron Lemuel Chandler, (M. D.) A. M.

Physician; Barre, Vt.

Henry Blanchard Hersey, B. S.

Maj. 1st Vol. Cavalry "Rough Riders"; Inspector U. S. Weather Bureau Service; Louisville, Ky.

1886.

Charles Herman Cheney, C. E.

Civil Eng. Cheney Bros.; Manchester, Conn.

Charles Henry Nichols, M. C. E.

1st Asst. Ch. Eng. Post and Maccord Bridge Co; Ch. Eng. Snare & Triest; Structual Eng. Kirby, Petitt & Green; N. Y. City.

Earl Henry Prince, B. S., (LL. B.)

In Business, Chicago, Ill.

Phil Sheridan Randall, M. S.

County Judge, Ellensdale, No. Dakota.

1887.

Charles Edwin Austin, B. S., (D. D. S.)

Dentist; Chicago, Ill.

***Ernest Victor Booth, M. S.**

Civil Engineer; Worcester, Mass.

Walter Edwin Hassam, C. E. M. S.

Capt. 2d Mass. N. G. 1893-98, Asst. City Engineer; Supt. Streets; Worcester, Mass.

1888.

Fred Thaddeus Austin, M. S., C. E.

1st Lieut. Artillery Corps, U. S. A.; Adj. 5th Mass. Vols, Spanish American War.

Harry Hale Goss, B. S.

Providence, R. I.

Fred Farnham Hayward, B. S.

Salesman, Prescott Piano Co.; Concord, N. H.

Luther Burnham Johnson, M. S.

Editor; *Randolph Herald*; Randolph, Vt.

William Alden Shaw, M. S.

U. S. Weather Bureau Observer; Northfield, Vt.

1889.

Fred Howe Clark, C. E.

Asst. City Engineer; Worcester, Mass.

George Herbert Cobleigh, B. L.

Manufacturer; So. Northfield, Vt.

Herbert Nelson Cross, B. L.

Lawyer; Springfield, Mass.

Eldridge Wheeler Gilman, C. E.

Merchant; Marshfield, Vt.

Robert Liston Irish, B. S., A. M., (M. D.)

Physician; New York City.

Elmer Roland Juckett, M. S.

County Judge; Hot Springs, So. Dakota.

***Fred Elsworth Lamb, C. E.**

Civil Engineer; Boston, Mass.

William Ethel Terrill, M. S.

Montpelier, Vt.

Aurin Ralph Shaw, M. S., D. D. S.

Dentist; Rio de Janeiro, Brazil.

Wright Seth Prior, C. E., M. S.

Lieut. 2nd Mass. N. G. 1894-95; Street Commissioner, 1897-1903; In Business; Worcester, Mass.

1890.

Seth Burton Adams, B. C. E.

Consulting Eng. Hartford Steam Boiler Inspec. and Ins. Co.; Phila, Penn.

Charles Edwin Collins, C. E.

Civil Engineer and Contractor; Phila., Penn.

Homer John Dane, B. S.

Vt. Volunteers Spanish-Amer. War; Pharmacist; Northfield, Vt.

Herman Dressel, Jr., A. M.

County Examiner; Prin. High School; Springfield, Vt.

John Huntoon Judkins, M. S., (M. D.)

Physician and Druggist; Northfield, Vt.

***Dexter Wadleigh Lewis, B. S.**

Boston, Mass.

Ira Rich Mower, B. S.

Representing Parke, Davis & Co., Georgia; Atlanta, Ga.

Charles Frederick Parker, C. E.

Civil Engineer and Contractor; Woonsocket, R. I.

1891.

George Franklin Abbott, C. E.

Asst. Engineer Boston Elevated R. R. Boston.

***The Rev. Alfred Frederick Booth, C. E., A. M.**

Universalist Clergyman; St. Albans.

Edward Aiken Shuttleworth, C. E., M. S.

Capt. 27th Inf.; U. S. A., Manila, P. I.

William Hibbard Sprague, B. L.

Merchant; East Brookfield, Vt.

Harry Gordon Woodruff, B. L.

Treas. Granite Savings Bank and Trust Co.; Barre, Vt.

Ethan Allen Shaw, C. E., A. M.

Professor Mathematics, Norwich University.

Carl Gilman Dole, C. E.

1st Lieut. Vt. Vols. Spanish Am. War; P. O. Dept.; Washington, D. C.

Heber Calvin Cady.

Treas. Northfield Savings Bank; Northfield, Vt.

Burton Wiley Farnham, C. E.

Asst. Eng. with Chas. E. Collins ('90); Eng. and Contractor.

Fred Miner Goodhue, C. E.

Asst. Eng. U. S. Geolog. Survey; Methuen, Mass.

Percy Gates Smith, C. E.

Mem. firm Smith & Moore, Hydraulic Engineers; Worcester and Southbridge, Mass.

Clarence Bonnett Riggs, C. E.

Asst. Engineer N. Y. Rapid Transit Commission, Woodlawn, N. Y.

1892.

Ephraim Wesson Clark, C. E.

Asst. Eng. Boston Elevated Ry.; Boston.

Joseph Spafford Craigue, C. E.

Mining Eng. for J. B. Markle & Co, Jeddo, Pa.

Charles John Clement Evans, C. E.

Asst. Engineer with Post & McCord, New York City.

Charles Warner Pierce, B. S., A. M.

Editor of *The Herald*; Northampton, Mass.

Robert Henry Perse Ford, C. E.

Assistant Chief Engineer of Central Vermont R. R.; St Albans, Vt.

Edmund Henry Ryan, B. S.

Civil Engineer and lawyer, Monticello, Utah.

DeWitt Clinton Webb, C. E.

Civil Engineer U. S. Navy, League Island Navy Yard, Phila., Pa.

Benjamin Whitney Gleason, B. S., M. D.

Physician; Somerville, Mass.

1893.

George Leslie Andrews, B. S.

Pharmacist, Pasadena, Cal.

Edward Cushman, Bennett, B. S.

Attorney at Law; No. Bennington, Vt.

Eben Watson Gaynor, M. S., D. D. S.

Dentist; Boston, Mass.

Frank Albert Gokey, B. S.

In Business at Everett, Mass.

Frank Dudley Holbrook, C. E.

Civil Engineer; with U. S. Eng. Corps; Boston, Mass.

Wilber Dudley Huribut, C. E., M. S.

Lawyer, Oshkosh, Wis.

Frank Alden Manuel, C. E.

Manufacturer; Richford, Vt.

Hiram Nathaniel Mattison, B. S.

Town Representative; Cashier National Bank; Chelsea, Vt.

Oren Luther Pease, B. S.

Pharmacist, Hartford, Conn.

1894.

Leo Bertram Clogston, C. E.

With Boston Elevated R. R.; Boston, Mass.

Ernest Willard Gibson, A. M.

Attorney at Law; (Capt. V. N. G.); Brattleboro, Vt.

Harvey Levi Hinman, C. E.

Railway Mail Service, Coos, N. H.

Howard Clinton Holden, C. E.

Division Eng. Massachusetts Highway Commission; Boston, Mass.

Leroy Chittenden Hulburd, C. E.

Asst. Eng. with S. Morgan Smith Co., York, Pa.; Dunwoody, Ga.

James Ernest Ross, C. E.

Insurance Surveyor, Sanborn Map Co.; New York City.

Raymond Underwood Smith, C. E.

Attorney at Law; Wells River, Vt.

***George Eber Storrs, B. S.**

Prin. Whitcomb High School; Bethel, Vt., 1894-95; Island Pond, Vt.

Hal Holmes Stearns, C. E.

Insurance Surveyor; Sanborn Map Co., New York City.

***Harlan Badger Wasson, C. E.**

Civil Engineer; with Mass. Highway Commission; Boston, Mass.

1895.

Edgar Fletcher Carruthers, B. S.

Inspector Barber Asphalt Paving Co.; New York City.

Charles Horace Davis, C. E.

Civil Engineer with A. W. Woods; Civ. Eng. and Contractor; Worcester, Mass.

Fred Carnot Davis, C. E.

Asst. Engineer Metropolitan Water Board; W. Boylston, Mass.

Frank James Donahue, C. E.

Insurance Surveyor; Sanborn Map Co, New York City.

Ray Storrs Dowe, B. S.

Railway Mail Service; Concord, N. H.

Walter George Huntley, M. S. (D. D. S.)

Dentist and Merchant; Northfield.

Philo Remington Hoefler, M. S.

Sec. Colorado Type Writer Exchange, Sec. Granville Mining Co.; Denver, Colo.

Harry Chester Moseley, B. S.

Merchant; Capt. V. N. G.: Northfield.

Bert Henry Prior, C. E.

Civil Engineer; Worcester, Mass.

Michael John Ryan, C. E.

Asst. Engineer Boston Elevated Railway; Boston.

Fred Barnes Thomas, M. S.

Lawyer; (Capt. V. N. G.) Montpelier, Vt.

Samuel Adrian Thomas, C. E.

Insurance Surveyor; Sanborn Map Co.; New York City.

Dean Clyde Warren, C. E.

Asst. Engineer; Metropolitan Water Board; Ashmont, Mass.

1896.

Arthur Gilbert Andrews, C. E. (LL. M.)

Attorney at Law; New York City.

James Leland Averill, C. E.

Pres. Hudson Structural Co.; Jersey City, N. J., New York City.

George Horace Briggs, C. E.

Asst. Engineer Metropolitan Water Board; West Boyleston, Mass.

Charles Sargent Carleton, C. E.

(Capt. 1st Me. Vols.) Prof. Field Eng. and Drawing; Norwich University.

Herbert Sawyer Clark, C. E.

Asst. Street Commissioner, Civ. Eng.; Worcester, Mass.

John Leslie Collins, C. E.

Civil and Hydraulic Eng.; Albany, N. Y.

Harry Ray Dole, B. S.

Sergt. 1st. Vt. Regt. Spanish American War; Capt. V. N. G.; With Pike Mfg. Co.; Pike, Station. N. H.

Phil Sheridan Howes, B. S.

With National Life Ins. Co.; Montpelier, Vt.

Edward Michael McCarty, B. S.

Student College Physicians and Surgeons; Boston, Mass.

Charles Albert Plumley, A. M.

Capt. V. N. G.; Asst. Clerk Vt. House of Representatives; Member firm Plumley & Plumley, lawyers; Northfield.

Carroll John Scribner, C. E.

Engineer Bridge Department C. V. R. R.; St. Albans, Vt.

Leon Anson Skinner, B. S.

In Business; So. Royalton.

Herbert Eugene Caswell, B. S.

Principal of Schools; Quechee, Vt.

1897.

Winfred Ballard Carr, C. E.

Capt. Artillery Corps, U. S. A.; Fort Slocum, N. Y.

Henry Vail Dunham, B. S., D. Sc.

General Manager, Casein Co. of America; Bellows Falls, Vt.

William Arba Ellis, B. S., A. M.

Insurance Surveyor, Sanborn Map Co.; Commandant Kirkwood (Mo.) Military Academy; Librarian, Norwich University.

***William Clarence Spafford, B. S.**

Served with Vt. Vols. Spanish-Amer. War; Died at Chickamauga, Ga.; Bennington, Vt.

Donald William Sutherland, (A. B.,) B. S.

Civil Engineer; Drummondville P. Q.

Charles Ernest Walker, B. S.

1st Lieut. U. S. Vols. Signal Corps; Chemist Oxford Paper Co.; Rumford Falls, Me.

1898.

Edwin Booth, A. B.

Bank Clerk; Morrisville, Vt; Sec. Powder Co., Wilmington, Del.

Lewis Charles Bump, B. S.

Manufacturer; Brandon, Vt.

James Wilber Cook, B. S.

Chief Output Dept., Western Electric Co.; New York.

Frank Winslow Dennison, B. S.

Civil Engineer; Northfield, Vt.

Paul Addison Dinsmoor, B. S.

Lawyer; Priv. Sec. to J. D. Bowersock, M. C., from Kansas; Washington, D. C.

Charles Edward Duggan, B. S.

Civil Engineer; Northfield, Vt.

George Harold Ellis, M. A.

Prin. High School; Chester, Vt.

Leonard Joel Parker, B. S.

Asst. Engineer; with Charles F. Parker, ('90) Civil Eng. and Contractor; Woonsocket, R. I.

George Everett Talbot, B. S.

Asst Engineer Park Dept.; N. Y. City.

Arthur Ellsworth Winslow, C. E.

Instr, Engineering Dept. Rose Polytechnic, Terre Haute, Ind; Prof. Civil Engineering; Norwich University.

1899.

Frank Leroy Aldrich, B. S.

Asst. Eng. Addit. Water Supply Commission, New York City; Civ. Eng., Northfield, Vt.

Hezekiah Kibbe Brooks, B. S.

Chief Chemist Casein Co. of America; Bellows Falls, Vt.

Charles Horace Eaton, B. S.

Asst. Engineer, Guayaquil & Quito R. R. Ecuador, So. A.

George Prentiss Lovell, B. S.

Inspector Boston & Albany R. R.; Asst. Eng. New York Central R. R., N. Y. City.

John Pool Moseley, B. S.

Commandant Norwich University, 1900; Insurance Surveyor Sanborn Map Co.; New York City.

Fred Aldrich Webster, B. S., D. O.)

Physician; New York City.

1900.

Sanford Harris Ashley, B. S.

Asst. Engineer Chicago, Milwaukee & St. Paul R. R.; Chicago, Ill.

Richard George Rich, B. S.

Insurance business; So. Manchester, Conn.

Jeffers Foster Richardson, B. S.

Sec. Granite Co.; Milford, Mass.

Harold Samuel Richmond, B. S., (C. E.)

Draftsman Boston Bridge Co.; Bridge Designer, B. & M. R. R., Boston, Mass.; Malden, Mass.

Berton William Sibley, B. S.

1st Lieut. U. S. Marine Corps; Essex Junc., Vt.

1901.

Fred Thompson Bass, B. S.

Draftsman; American Bridge Co.; Flushing, L. I.

Dean Orris Carr, B. S.

Asst. Eng. Pennsylvania R. R.; Oil City, Pa.

Harry Guy Clark, B. S.

Civil Engineer; Springfield, Mass.

Irving Clendenen Ellis, B. S.

Ellis' Granite Works; Northfield, Vt.

Carl Danforth Hazen, B. S.

Asst. Eng. Pa. R. R., Pittsburg, Pa.

Leonard Melvin Newton, B. S.

Asst. Eng. Pa. R. R. Pittsburg, Pa.

William Everett Robertson, B. S.

Chemist; Boston El. R. R.; Boston, Mass.

Charles Edward Wheatley, B. S.

1st Lieut. Artillery Corps, U. S. A.

1902.

Leon Frank Booth, B. S.

Manager Produce Exchange; Rockland, Mass.

Frank Henry Burr, B. S.

2d Lt. 3d Infantry, U. S. Army.

Henry Albert Chase, B. S.

Instructor in Chemistry; Norwich University.

Willard Lynn Fuller, B. S.

Civil Engineer, Youngstown, Ohio.

Harry Mansur Hobson, B. S.

Transitman Ill. Cent. R. R.; Bookhaven, Miss.

Timothy Holland, B. S.

Insurance Surveyor Sanborn Map Co.; New York City.

Robert Truman Phinney, B. S.

2d Lt. 12th Infantry, U. S. Army; Montpelier, Vt.

John Theodore Smith, B. S.

Asst. City Eng.; Saranac Lake, N. Y.

Laurence Bernard Stebbins, B. S.

Asst. Eng. with Chas. F. Parker ('00); Woonsocket, R. I.

Frank Strong, B. S.

Asst. Eng. Pennsylvania R. R.; Pittsburg, Pa.

Guy Henry Watson, B. S.

Asst. Engineer Pennsylvania R. R.; Pittsburg, Pa.

1903.

Arthur Garfield Baker, B. S.

Instrument Man, City Eng. Office, Fitchburg, Mass.

Ernest Stearns Ball, B. S.

Draftsman, Riter-Conley Mfg. Co., Pittsburg, Pa.

Bertrand Dorr Barker, B. S.

Asst. Eng. U. S. Coast and Geodetic Survey; Colonial Beach, Va.

John Henry Byrd, B. S.

Draftsman, Riter-Conley Mfg. Co., Pittsburg, Pa.

Elroy Albert Chase, B. S.

Draftsman, Cross Bros. Granite Works, Northfield, Vt.

Gilbert Clarence Eastman, B. S.

In business, Milford, Mass.

Robert Burns Farquharson, B. S.

2nd Lieut. U. S. Marine Corps; Washington, D. C.

Kemp Russel Blanchard Flint, B. S.

With Sherburne and Flint, Montpelier, Vt.

John Harold Foster B. S.

Post Graduate Work in Chemistry, M. I. T., Boston; Waltham, Mass.

Samuel Leslie Fuller, B. S.

Draftsman, Riter-Conley Mfg. Co.; Pittsburg, Pa.

Emilo Guerra y Giro, B. S.

Instrument Man with Eduardo J. Chibas, Mem. Am. Soc. C. E., Santiago De Cuba.

Fritz Louis Metzger, B. S.

Asst. Eng. Wabash R. R.; Fairmount, W. Va.

Stanley John Parsons, B. S.

Draftsman Riter-Conley Mf'g Co.; Pittsburg, Pa.

Harry A. Peabody, B. S.

In business, Chester, Vt.

John Tinney Powers, B. S.

Transitman N. Y. Central R. R.; New York, N. Y.

Marshall Morrill Stocker, B. S.

Surveyor; Danville, Vt.

Robert Lee Wilkins, B. S.

Law Student, Univ. Mich;. Ann Arbor, Mich; Viroqua, Wis.

Allan Rawson Williams, B. S.

Draftsman, Wabash R. R.; Fairmount, W. Va.; 2nd Lieut. U. S. A.

Seth Williams, B. S.

1st Lieut. U. S Marine Corps, Phillipine Islands; Permanent address, Foxboro, Mass.

GEOGRAPHICAL INDEX.

MAINE.

CUMBERLAND MILLS

Chas. Sargent Carleton, 1896

DEERING

Reuel Small, 1866

HOULTON

Obed Foss, 1850

MONTAGUE

Chas. R. Wallingford, 1868

OXFORD

Chas. Ernest Walker, 1897

NEW HAMPSHIRE.

CLAREMONT

†Samuel Edgar Briggs, 1855
Chas. Hatch Long, 1855

CONCORD

Fred Farnham Hayward, 1888
Ray Storrs Dowe, 1895

EXETER

Chas. Marseilles, 1868

HANOVER

Harry Niles Worthen, 1857

LANCASTER

Henry Oakes Kent, 1854

MARLBOROUGH

Sullivan Holman McCollester, 1851

MANCHESTER

Chas. Henry Smart, 1865
Henry Tudor Lyman, 1873

NASHUA

Wilber Clark Howe, 1883

NO. STRATFORD

Harvey Levi Hinman, 1894

PIKE

Harry Ray Dole, 1896

WASHINGTON

†Joseph W. Shedd, 1840

VERMONT.

BARRE

Myron Lemuel Chandler, 1885
Harrison Gordon Woodruff 1891

BELLOWS FALLS

Hezekiah Kibbe Brooks, 1899
Henry Vail Dunham 1897

BENNINGTON

Edward Cushman Bennett 1893

BRANDON

Lewis Chas. Bump, 1898

BRATTLEBORO

Ernest Willard Gibson, 1894

CHESTER

Geo. Harold Ellis, 1898
Harry A. Peabody, 1903

CLARENDON

Augustine E. Smith, 1856

CHELSEA

Hiram Nathaniel Mattison, 1893

EAST BROOKFIELD

Wm Hibbard Sprague, 1891

MARSHFIELD

Elbridge W. Gilman, 1889

MONTPELIER

Dwight Henry Kelton, 1864
Fred Elton Steele, M. D., 1882
Willis Ethel Terrill, 1887
Fred Barnes Thomas, 1895
Phil Sheridan Howes, 1896
Kemp Russel B. Flint, 1903

MORRISVILLE

Edwin Booth, 1898

NEWPORT

Frank Dudley Holbrook, 1893

NORTHFIELD

Frank Leroy Aldrich, 1899
Chas. Dole, 1869
Walter Dole, 1870
Robert Alexander Silver, 1874
Marshall Davis Smith, 1881
William Alden Shaw, 1888
Homer John Dane, 1890
John Huntoon Judkins, 1890
Heber Calvin Cady, 1891
Ethan Allen Shaw, 1891
Walter Geo. Huntley, 1895
Harry Chester Moseley, 1895
Chas. Sargent Carleton, 1896
William Arba Ellis, 1897
Frank Winslow Denison, 1898
Charles Edward Duggan, 1898
John Poole Moseley, 1898
Charles Albert Plumley, 1896
Arthur Ellsworth Winslow, 1898
Irving Clendenen Ellis, 1901
Henry Albert Chase, 1902
Elroy Albert Chase, 1903

NORTH HARTLAND

Geo. Morrison Willard, 1870

POULTNEY

Bertrand Dorr Barker, 1903

QUECHEE

Wm. Strong Dewey, 1863
John Jasper Dewey, 1865
Herbert Eugene Caswell, 1896

RANDOLPH

Luther Burnham Johnson, 1888

RICHFORD

Frank Alden Manuel, 1893

RUTLAND

Levi Gleason Kingsley, 1856

SOUTH NORTHFIELD

Geo. Herbert Cobleigh, 1889

SPRINGFIELD

Herman Dressel, Jr., 1890

SOUTH ROYALTON

Leon Anson Skinner, 1896
†Joseph S. Tilden, M. D., 1837
† F. L. Alba, M. D., 1846
†Edwin C. Cross, M. D., 1846

ST ALBANS

Chas. Henry Atwood, 1863
Myron Robert Hurlburt, 1867
Robert Henry P. Ford, 1892
Carroll John Scribner, 1896

STRAFFORD

Nathan Burnham Cobb, 1846

SWANTON

Henry Augustus Burt, 1873

WELLS RIVER

Raymond Underwood Smith, 1894

WEATHERSFIELD

Stephen H. Nichols, 1847

WILMINGTON

Joseph Hiram Goulding, 1865

MASSACHUSETTS.

ASHMONT

Dean Clyde Warren 1895

BERNARDSTON

Ormando Willis Grey, 1850

BEVERLY

Chas. Francis Thorndike, 1864

BLACKSTONE

Seth Henry Benson 1867

BOSTON

Chas. Morton, 1800
Robert Chandler Lord, 1864
John Holbrook Osgood, 1864
Wm. B. Eaton, Jr., 1866
Geo. Lemuel Huntoon, 1873
Ned Louis Sheldon, 1884
Dexter Wadleigh Lewis, 1890
Geo. Franklin Abbott, 1891
Ephraim Wesson Clark, 1892
Eben Watson Gaynor, 1893
Leo Bertram Clogston, 1894
Howard Clinton Holden, 1894
Dean Clyde Warren, 1895
John Michael Ryan, 1895
Edward Michael McCarty, 1896
Harold Samuel Richmond, 1900
Wm. Everett Robertson, 1901

EVERETT

Frank Albert Gokey, 1893

FALMOUTH

†Frank Joseph Davis, 1867

FITCHBURG

Arthur Garfield Baker, 1903

GREENFIELD

Chas. Tyler Walcott, 1859
Samuel Dimmock Conant, 1872

KINGSTON

Henry Martin Jones, 1881

LANESBORO

†Arthur Briggs Gilbert, 1870

LAWRENCE

Wm. Lemuel Stedman, 1872

LOWELL

†Joseph E. Wright, 1850

METHUEN

Fred Minor Goodhue, 1891

ROCKLAND

Leon Frank Booth, 1902

MILFORD

Jeffers Foster Richardson, 1900
Gilbert Clarence Eastman, 1903

NO ADAMS

Chas. Foster Styles, 1857

N. ATTLEBORO

Wm. Howard Wilmarth, 1881

N. HAMPTON

Chas. Warner Pierce, 1892

SALEM

Chas. B. Crownigshield, 1842

SOMERVILLE

Benj. Whitney Gleason, 1892

SPRINGFIELD

Henry Moses Phillips, 1864
Herbert Nelson Cross, 1889
Harry Guy Clarke, 1901

UXBRIDGE

Geo. Taft Hobbs, 1862

WALTHAM

John Q. A. McCollester, 1853
Geo. Delbert Thomas, 1876
John Harold Foster, 1903
Geo. Horace Briggs, 1896

WEST BOYLSTON

Fred Carnot Davis, 1885

WINTHROP

Clarence Lockwood Hathaway, 1869

WORCESTER

Walter Edwin Hassam 1886
Fred Howe Clark, 1889
Wright Seth Prior, 1889

Percy Gates Smith, 1891
Chas. Horace Davis, 1895
Bert Henry Prior, 1895
Herbert Sawyer Clark, 1896

RHODE ISLAND.

CHEPACHET

Jesse Benton Mowry, 1892

PROVIDENCE

Harry Hale Goss, 1888

WOONSOCKET

Chas. Frederick Parker, 1890
Leonard Joel Parker, 1898
Laurence Bernard Stebbins, 1902

CONNECTICUT.

HARTFORD

Orin Luther Pease, 1893

POMFRET

†John Holbrook Osgood, 1864

SOUTH MANCHESTER

Chas. Herman Cheney, 1886
Richard Geo. Rich, 1900

NEW YORK.

ALBANY

John Leslie Collins, 1896

BRASHER FALLS

Leroy Chittenden Hulburd, 1894

BROOKLYN

Cyrus Hyde Fay, 1837
Chas. Alexander Silver, 1841
Alvan Earl Bovay, 1841

BUFFALO

Calvert King Mellen, 1884

FLUSHING

Fred Thompson Bass, 1901

GLENS FALLS

Henry Augustus Howard, 1865

MORIAH

Hiram M. Storrs, (2) 1842

NEW YORK CITY

Isaac Townsend Smith, 1828
Eugene Eckel McLean, 1837
John Harris, 1841
Grenville Mellen Dodge, 1850
Jonas H. Platt, 1854
Wm. Smith Burton, 1855
Chas. Hildreth Lewis, 1855
Elias Burton Hart, 1857
Theodore Harvey Kellogg, 1862
Clayton Eugene Rich, 1863
Edward Dean Adams, 1864
Chas. Nelson Kent, 1864
Dudley Farley Phelps, 1864
John Swift Richards, 1865
Waldo Park Clement, 1872
Chas. Greenleaf Griffith, 1872
Wm. Ripley Dorr, 1873
John Robert Moore, 1873
Waldo Henry Richardson, 1876
Edward McClure Peters, 1880
James Michael Holland, 1883
Geo. Roberts Miner, 1883
Chas. Henry Nichols, 1886
Robert Liston Irish, 1889
Fred Miner Goodhue, 1891
Clarence Bonnett Riggs, 1891
Edgar Fletcher Carruthers, 1895
Samuel Adrian Thomas, 1895
Frank James Donohue, 1895
Arthur Gilbert Andrews, 1896
James Leland Averill, 1896
James Wilber Cook, 1898
Geo. Everett Talbot 1898
Geo. Prentiss Lovell, 1899
Fred Aldrich Webster, 1899
Timothy Holland, 1902
John Tinney Powers, 1903

SARANAC LAKE

Burton Wiley Farnham, 1891
John Theodore Smith, 1902

SPENCERPORT

Bela Stevens Buel, 1855

UTICA

†Edward Bushell, 1843

WHITEHALL

Warren Franklin Bascom, 1864

NEW JERSEY.

CAMDEN

Harry Christopher Dole, 1877

HOBOKEN

Chas. J. C. Evans, 1892

MADISON

Robert Manson Stephens, 1877

PERTH AMBOY

†Edward Crowell, 1840

PITTSTOWN

Archibald S. Taylor, 1859

PENNSYLVANIA.

DOYLESTOWN

Wm. W. H. Davis, 1842

JEDDO

Joseph Spafford Cregar, 1892

OIL CITY

Dean Otis Carr, 1901

PITTSBURG

Louis Franklin Chamberlain, 1901
Carl Danforth Hazen, 1901
Leonard Melvine Newton, 1901
Frank Strong, 1902

Guy Henry Watson. 1902
Ernest Stearns Ball. 1903
John Henry Byrd. 1903
Samuel Wesley Fuller. 1903
Stanley John Parsons. 1903

PHILADELPHIA

*Samuel B. Grace. 1857
DeForrest Holt Merriman. 1857
Archie Lorenzo Sheldon. 1873
Frank Winslow Conn. 1881
Seth Burton Adams. 1890
Chas. Edwin Collins. 1880

WARREN

†A. H. Page. 1903

WILLIAMSPORT

Cyrus M. Merriman. 1859

DISTRICT OF COLUMBIA.

WASHINGTON

†Daniel Tullar. 1840
James Van Allen Shields. 1841
Geo. Williamson Balloch. 1847
Henry Elijah Alvord. 1863
Thomas Jefferson Lasier. 1864
Reuel Small. 1866
Burleigh Fulsom Spaulding. 1877
Carl Gilman Dole. 1896
Paul Addison Dinsmoor. 1898

VIRGINIA.

BRANDY STATION

Augustine L. C. Major. 1841

RAPIDAN

Benjamin F. Waller. 1841
†Fred Halsey McCullough. 1864

SOUTH CAROLINA.

CHARLESTON

Thomas D. Fell. 1840
Philander Palmer. 1840

FLORENCE

Thos. S. Brownell. 1854
Henry Osgood Herrick. 1854

GEORGIA.

ATHENS

Thos. Henry Nickerson. 1884

ATLANTA

Ira Rich Moore. 1890

LAGRANGE

Henry H. Cary.

FLORIDA.

DELAND

Oscar Baron Child. 1865

JACKSONVILLE

*Calvin Lewis Robinson.

PENSACOLA

[illegible]

WEST VIRGINIA.

FAIRMOUNT

Fritz Louis Metzger. 1903
Allan Rawson Williams. 1905

KENTUCKY.

LEXINGTON

Otis Seth Tenny. 1840

LOUISVILLE

Bernard Shipp. 1828
Henry Blanchard Hersey. 1865

MISSISSIPPI.

BROOKHAVEN

Harry Mansur Hobson. 1902

KEMPER SPRINGS

†Samuel Batchelder. 1857

LOUISIANA.

LAFAYETTE

Gustave Arvillian Breaux. 1847

OHIO.

CINCINNATI

Sylvester M. Hewitt. 1840
Edward Deuslow Upham. 1874

CLEVELAND

Curtis Sawyer Barrett. 1863
Samuel Thomas Welman. 1867

GALENA

Jay Dyer. 1838

INDIANA.

FORT WAYNE

†Frederick Halsey McCullough. 1864

TERRE HAUTE

Malverd Abijah Howe. 1882

ILLINOIS.

BLOOMINGTON

Henry L. S. Haskell. 1846

CHAMPAIGN

Samuel Walker Shattuck. 1860

CHICAGO

†Joseph E. Young. 1850
Arba Nelson Waterman. 1856
Ralph Metcalf. 1864
Chas. Edward Field. 1874
Earl Henry Prince. 1886
Chas. Edwin Austin. 1887
Sanford Harris Ashley. 1900

GALESBURG

John Van Ness Standish. 1847

MOLINE

James Edward Ainsworth. 1853

NORMAL

[illegible]

WISCONSIN.

EDGERTON

John Parker Towne, 1852

HUDSON

Samuel Curtis Simonds, 1852

LAYFAYETTE

Lorenzo Potter, 1856

MADISON

Geo. Edwin Bryant, 1854
Chas. Albert Curtis, 1861

OMRO

Wilber Edson Hurlburt, 1893

VIROQUA

Robert Lee Wilkins, 1908

WEST SUPERIOR

Fred Silas Parker, 1884

MICHIGAN.

BENTON HARBOR

Fred Rice Belknap, 1885

IMLAY CITY

James Ernest Ross, 1894

MINNESOTA.

†Luke E. Miller, 1841

DETROIT CITY

Cyrus Moses Johnston, 1873

FERGUS FALLS

Luther Loren Baxter, 1857

ST PAUL

Lucius Hurlburt, 1840
Wm. Woodbury Howard, 1865

IOWA.

COUNCIL BLUFFS

Grenville Mellen Dodge, 1850

MARSHALLTOWN

Henry John S. Howe, 1869

OTTUMWA

Wm. Haven. 1863

MISSOURI.

SEDALIA

Arthur Payne Mowry, 1864

ST. LOUIS

Cyrus Barrett Burnham, 1839
Bernard G. Farrar, 1845
Chas. Horace Spooner, 1888

NORTH DAKOTA.

ELLENSDALE

Phil Sheridan Randall, 1886

FARGO

Burleigh Fulsom Spaulding, 1877

SOUTH DAKOTA.

HOT SPRINGS

Elmer Roland Juckett, 1889

KANSAS.

LAWRENCE

†Henry Hobart Gillum 1850
Henry H. Howard, 1851
Paul Addison Dinsmoore, 1898

COLORADO.

DENVER

Philo Remington Hoefler, 1895

UTAH.

MONTICELLO

Edmund Henry Ryan, 1892

SALT LAKE CITY

Wesley Kimball Walton, 1867

WASHINGTON.

SEATTLE

Simon Manly Preston, 1845
Eugene Merwin Carr, 1879

CALIFORNIA.

†Winfield Scott Sherwood, 1837

PASADENA

John Benj. Johnson, 1879
Geo. Leslie Andrews, 1893

U. S. NAVY.

Geo. Dewey, 1855
Archibald S. Taylor, 1895
Geo. Albert Converse, 1863
Geo. Partridge Colvocoresses, 1867
DeWitt Clinton Webb, 1892
Burton Wm. Sibley, 1900
Robert Burns Farquharson, 1903
Seth Williams, 1903

U. S. ARMY.

Edward Bancroft Williston, 1856
Henry Clay Wood, 1856
Edmund Rice, 1860
Chas. Albert Curtis, 1861
Chas. A. Coolidge, 1863
Lemuel Abijah Abbott, 1864
Dwight Henry Kelton, 1864
Benj. Kearney Roberts, 1865
Fred Thaddeus Austin, 1888
Edward Aiken Shuttleworth, 1891
Winfred Ballard Carr, 1897
Chas. Edward Wheatley, 1901
Frank Henry Burr, 1902
Robert Truman Phinney, 1902
Allan Rawson Williams 1905

PHILIPPINE ISLANDS.

MANILLA

Chas. Wesley Mead 1874

CANADA.

DRUMMONDVILLE, P. Q.

Donald Wm. Sutherland.

MONTREAL

Alvin Morton Bailey.

CUBA.

SANTIAGO

Emilio Guerra y Giro.

ENGLAND.

*John Harris,

MEXICO.

MONTEREY

1897 Wm. Henry Wentworth. 1868

1872

SOUTH AMERICA,—BRAZIL.

RIO JANEIRO

Aurin Ralph Shaw. 1889

1903

ECUADOR.

1841 Chas. Horace Eaton, 1899

INDEX.

a indicates a graduate of the American, Literary, Scientific and Military Academy.

A

1891 Abbott, George Franklin
1864 Lemuel Abijah
1864 Adams, Edward Dean
1839 George Bradley
1880 Seth Burton
1853 Ainsworth, James Edward
1846 Alba, F L
1899 Aldrich, Frank Leroy
Allen, Cornelius Lansing
a Joseph Dana
1863 Alvord, Henry Elijah
a Amory, Charles
1896 Andrews, Arthur Gilbert
1883 George Leslie
1855 Andrus, Delano Franklin
1900 Ashley, Sanford Harris
1863 Atwood, Charles Henry
1853 Julius P
1887 Auston, Charles Edwin
1888 Fred Thaddeus
1849 Averill, Clinton Spaulding
1896 James Leland

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a Babbett, Jacob
1873 Bailey, Alvin Morton
1863 George Alonzo
a Baker, Henry W.
a Jonathan
1904 Arthur Garfield
1904 Ball, Ernest Stearns
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1845 Barnard, John Mills
1901 Barker, Bertrand Dorr
1863 Barrett, Curtis Sawyer
1869 Bascom, Gustavus
1864 Warren Franklin
1901 Bass, Fred Thompson
1873 Bates, Frank Richard
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1851 Samuel
1851 Baxter, Luther Loren
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a Beach, William Augustus
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1893 Edward Cushman
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a Bingham, Daniel Havens
1843 Blanchard, Lemuel Winslow
1847 Boardman, Napoleon
a Boggs, Charles Stuart
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1891 Booth, Alfred Frederick
1887 Ernest Edward
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1902 Leon Frank
1865 Bottomly, Frank Timothy
a Bourleigh, Joseph Bartlett
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1855 Boyd John Curry
1863 Bradley, Charles Oscar
a Bragg, Thomas
1847 Breaux Gustave Arvilien
1896 Briggs, George Horace
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a Brooks, Edward L—B—
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a Brownson, Orestes Augustus
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1855 Buel Bela Stevens
1856 George Parsons
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1902 Burr, Frank Henry

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1878 Henry Augustus
1856 Burton, William Smith
1843 Bushell, Edward M. (?)
1847 Buswell, Albert
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a Cady, Albermarle
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a Cameron, Paul Carrington
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a William Simpson
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a Carpenter, Edward William
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1879 Eugene Merwin
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1900 Chamberlain, Louis Franklin
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1847 Francis (X)
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1892 Clark, Ephraim Wesson
1888 Fred Howe
1900 Harry Guy
1842 Hiram
1896 Herbert Sawyer
1857 Warren
1872 Clem Waldo Park
1894 Clogston, Leo Bertram
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a Colburn, Zera
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1872 Conant, Samuel Dimmock
1881 Conn, Frank Winslow
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1861 Curt s, Charles Albert
1837 Joseph W.
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1890 Dane, Homer John
1867 Davidson, Harlan Page
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Fred Carnot
a George Washington
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a Dearborn, Henry George Raliegh
1845 Denison, Charles Edward
1898 Frank Winslow
1852 Denniston, Charles Young
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a Dicks, John W.
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1870 Walter
1895 Donahue, Frank James
1841 D rn, Andrew Jackson
a Dorr, Ralph Smith
1873 William Ripley
1846 Dow, Ben
1845 Roswell
1895 Ray Storrs
a Downs, Albert E.
1890 Dressel, Herman, Jr.
a Dubose, Theodore Samuel
1898 Duggan, Charles Edward
a Dunbar, Albert Willis
a Elisha
1897 Dunham, Henry Vail
1841 Dustin, Daniel H
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1841 Eastman, Cogswell
1873 Paris Augustus
1899 Eato , Charles Horace
1866 W iam B.
1898 Ellis, George Hare d
1901 rv g endenon
1868 Natha iel Webster
1897 William Arba
1842 Emerson, William E.
1852 Emery, Harvey Webster
1854 Ensign, William H.
1864 Estey, Julius Jacob
1892 Evans, Charles John Clement

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1891 Farnham, Berton Wiley
a Farrand, Ebenezer
1845 Farrar, Bernard G.
1856 Frederick Howard
1857 Fay, Cyrus Hyde
1841 Fell, Thomas D
1874 Field, Charles Edward
1860 George W.
a Fletcher, Asaph G.
1839 Friend Perry
a Ryland
1841 Flint, Ephraim
1903 Kemp Russell Blanchard
1892 Ford, Robe t Henry P.
1850 Foss, Obed
1903 Foster, John Harold
a Frazer, John Fries
1857 Robert
1856 Freeman, Frederick Norton
1842 Frizelle, Joseph Washington
a Fulton, Robert?
1903 Fuller, Samuel Leslie
1902 Willard Lyman

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a Gardiner, W lliam Hallowell
1893 Gaynor, Eben Watson
1904 Gallups, Charles Franklin
1864 Gerrish W liam
a Gervais, John L.
1894 Gibson, Ernest William
a Gignalliat, Norman
1870 Gilbert, Alfred Briggs

1837	Gilbert, Horatio Gates
a	Samuel Shepard
1850	Gillum, Henry Hobart
1889	Gilman, Elbridge Wheeler
1904	Ralph Leon
1839	Gilson, George Washington
1903	Giro, Em o 'uerra y
1836	Gleason, Amasa
1892	Benjamin Whitney
1849	Newell
1893	Gokey, Frank Albert
a	Glynn, James
a	Goodall, David
1891	Goodhue, Fred Miner
1888	Goss, Harry Hale
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1852	Greenwood, William Henry
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1837	Grice, Samuel B.
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1868	Grosvenor, Robert

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a	Hale, Osmer
a	Reuben Charles
1839	Hall, James A.
1843	Hancock, Henry
a	John
1841	Harris, John
1857	Hart, Elias Burton
a	Harstene, Henry J.
1846	Henry, Louis Slatter
1846	Haskell, Henry Louis Slatter
1887	Hassam, Walter Edwin
1869	Hathaway, Clarence Lockwood
a	Guildford H.
1863	Haven, William
a	Hawkins, Thomas D.
a	Hayes, Augustus Allen
1888	Hayward, Fred Farnham
1901	Hazen, Carl Danforth
1853	Herrick, Henry Osgood
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1863	Ho rooks, Frank Dudley
a	John Calvin
1867	Hoc t, Paul Re gton
1894	Hoode , Howard Co ton
1884	Ho and, Jame Mathew
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1865	Ho d, Henry Augustus
1852	Henry H
1879	Sumner A
1905	Wi W Perry
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1901	Henry John S
1887	Maxwell A
1883	William Cleo
1896	Howes, Pe S
1892	Hubbard, Wi H
1894	Hubbard, Lewis Chittenden
a	Humphreys, Storey
1895	Huntley, Walter George
1840	Huribut, Lucius

1867	Hurlbut, Myro
1839	Walter B
1893	Wilbur F
1861	Irish, Nathani
1889	Robert L
a	Irving, Sander
a	Washing
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1836	Jackman, Alon
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a	Jenkins, John I
a	Joseph M
a	Richard
a	Johnson, Edwi
1879	John Be
1888	Luther F
1873	Johnston, Cyr
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a	McKewn
1881	Jones, Henry J
a	John Pri
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1847	Kendall, Paul
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1854	Henry C
a	Kidder, Jeffers
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a	Kirkland, Alex
1889	Lamb, Fred I
1864	Lasier, Thom
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1843	Stephen
1842	William Little
a	William
a	E— L—
1839	Lewis Cha le
1855	Charles
1890	Dexter W
a	William
1858	Lillie, Jehiel
1850	Lincoln, Franc
1839	Joshua T
1850	Little, Richard
1859	Livingstone, W
1855	Long, Charles
1854	Lord, Robert C
a	Loudon, Henry
1899	Lovell, George
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1839	Lyon, Caleb
a	Mackey, D— F
1841	Major, August
1895	Manuel, Frank
1868	Marseilles, Ch
1857	Marsh, Benjam
a	Luther R
1842	Otis Mas
1889	Samuel

1839 **Marvin, Asa Crosby**
1893 **Mattison, Hiram Nathaniel**
1896 **McCarty, Edward Michael**
1853 **McCollester, John Quincy A.**
1852 Sullivan Holman
1864 **McCulloch, Fred Halsey**
a **McDermot, Charles**
1876 **McIlwaine, Theodore Chadavoyne**
a **McKay, James**
1837 **McLean, Eugene Eckel**
a **McNeil, Stephen D.**
1881 **Mead, Charles Wright**
1851 John Baldwin T.
1884 **Mellen, Calvert King**
1859 **Merriman, Cyrus M.**
1857 Deforest Holt
1864 **Metcalf, Ralph**
1903 **Metzger, Fritz Louis**
1841 **Miller, Luke (E)**
1845 Orlando Dana
1843 **Milroy, Robert Houston**
1883 **Miner, George Roberts**
a **Minot, George**
1873 **Moore, John Harvey Robert**
1864 **Morey, Arthur Paine**
a **Morgan, Junius Spencer**
1851 **Morris, Ephraim**
1841 Henry Villiers
a **Morse, Isaac Edward**
1860 **Morton, Charles**
1895 **Moseley, Harry Chester**
1899 John Pool
1863 **Moses, Rufus Leander**
1891 **Mower, Ira Rich**
a Joseph Anthony
1892 **Mowry, Jesse Benton**
1854 **Munson, William Day**
a **Murdock, James**
1847 **Murphy, James Garfield**
1838 **Murray, John C.**

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1841 **Nalle, Benjamin Franklin**
1866 **Needham, William Chauncey H.**
1845 **Newman, William Addison**
1870 **Newton, Benjamin Ball**
1901 Leonard Melvin
1886 **Nichols, Charles Henry**
1839 Samuel, Jr.
1847 Stephen H.
1884 **Nickerson, Thomas Henry**
a **North, Ralph L.**

O

1863 **Ober, George Hawes**
1847 **Olivet, Caleb**
1864 **Osgood, John Holbrook**
a **Owen, Thomas H**
1871 William Griffith

P

a **Paddock, Horace**
1863 **Page, A— H—**
1867 Frank A.
1840 **Palmer, Philander**
1890 **Parker, Charles Frederick**
1859 Edgar
1834 **Parker, Fred Silas**
1847 John Gideon
1898 Leonard Joel
a **Parrott, William P**
1903 **Parsons, Stanley John**
a **Partridge, Frederick W.**
a Samuel
1849 William
1863 **Patterson, Rody**
1848 **Paul, William Patterson**
a **Paulding, Hiram**
1893 **Pease, Oren Luther**
1850 **Peirce, Lafayette**
1846 Lucius D.
a **Pell, Livingstone**
a **Pennock, Cyril**
a **Perkins, Hamilton Elliott**
1880 **Peters, Edward McClure**
1864 **Phelps, Dudley Farley**
a Edward Elisha
1864 **Phillips, Henry Moses**
a Philip
1902 **Phinney, Robert Truman**
1892 **Pierce, Charles Warner**
1841 Henry
1854 **Platt, Jonas H.**
1854 Zephaniah
1896 **Plumley, Charles Albert**
1845 **Potter, Daniel S. C. M.**
1856 Lorenzo
1903 **Powers, John Tinney**
1845 **Preston, Simon Manly**
1886 **Prince, Earl Henry**
1895 **Prior, Bert Henry**
1889 Wright Seth

R

1882 **Randall, Clarence Eugene**
1886 **Randall, Phil Sheridan**
a **Ranney, Henry J. (S?)**
1851 **Ransom, Dunbar Richard**
1851 Thomas Eugene G.
a Truman Bishop
1865 **Reed, Charles Henry**
1860 **Rice, Edmund**
1863 **Rich, Clayton Eugene**
1899 Richard George
1865 **Richards, Joseph Swift**
1841 **Richardson, David**
1901 Jeflers Foster
1876 Waldo, Henry
1900 **Richmond, Harold Samuel**
1891 **Riggs, Clarence Bonnett**
1865 **Roberts, Benjamin Kearney**
1849 **Robinson, Calvin Lewis**
a Moncure
1894 **Ross, James Ernest**
1841 **Roundy, Alvin**
1876 **Rumbaugh, William Moser**
a **Russ, John Denison**
a **Russell, Walter Webster**
1904 Guy Garfield
a William Huntington
1892 **Ryan, Edmund Henry**
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1868 **Sabin, Geo. K.**
a **Sanford, William R.**
1864 **Sawyer, Francis Asbury**
1857 **Sayles, Charles Foster**
1896 **Scribner, Carroll John**
a **Sedgwick, Theodore**
a **Seymour, Horatio**
a **Seymour, Horatio**
a Thomas Henry
1864 **Shattuck, Abbott Allen**
1860 Samuel Walker
1899 **Shaw, Aurin Ralph**
1891 Ethan Allen
1888 William Alden
1848 **Shedd, Johnson**
1851 Solon
1873 **Sheldon, Archie Lorenzo**
1884 Ned Lewis
1842 **Shepard, Benjamin Franklin**
1837 **Sherwood, Winfield Scott**

1841 Shields, James Van Allen
a Shipp, Bernard
1891 Shuttleworth, Edward Aiken
1900 Sibley, Burton William
1841 Silver, Charles Alexander
1870 Robert Alexander
a Simmons, Seneca Galusha
1896 Skinner, Leon Anson
1838 Slack, Charles
1866 Small, Ruel
1865 Smart, Charles Henry
1856 Smith, Augustus (E?)
a Isaac Townsend
1865 Jesse Bishop
1902 John Theodore
1881 Marshal Davis
1891 Percey Gates
1814 Raymond Underwood
1860 Sumner Timothy
1897 Spafford, William Clarence
1877 Spaulding, Burleigh Franklin
1878 Spooner, Chas. Horace
1891 Sprague, William Hibbard
1847 Standish, John Van Ness
a Stanley, Edward
1894 Stearns, Hal Holmes
1902 Stebbins, Laurence Bernard
1859 Stedman, Joseph
1872 William Lemuel
1863 Steel, Charles Edward
1882 Fred Elton
1877 Stephens, Robert Mason
1841 Stevens, Justin Edward
1903 Storker, Marshall Morrill
1894 Storrs, George Eber
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1861 Stoughton, Charles Bradley
1837 Streeter, Joseph Herman
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1851 Stroebel, Louis M.
1902 Strong, Frank
1856 William H. Chase
1897 Sutherland, Donald William
1872 Swett, James Wheeler
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1899 Talbot, George Everett
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a Tatnall, Josiah
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1880 Ferris, Willis Ethel
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1895 Samuel Adrian
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a Tracy, George M.
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1874 Upham, Edward Dean

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1859 Walcott, Charles Tyler
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1865 Wentworth, Charles Eben
1868 William Henry
a Wessells, Henry Walton
1901 Wheatley, Charles Edward
a Wheeler, Asa Jr.
1840 Simeon
1847 Whipple, Solomon Mason
1839 Thomas Jefferson
1841 White, Thomas Williams
1868 Whiting, Frank Mortimer
1866 Whittier, James Anson L.
1903 Wilkins, Robert Lee
1870 Willard, George Morrison
1903 Williams, Seth
a Williston, David Howe
1856 Edward Bancroft
1881 Willmarth, William Howard
1898 Winslow, Arthur Ellsworth
1856 Wood, Henry Clay
1839 Youngs Vail
1891 Woodruff, Harrison Gordon
a Woodworth, Hiram P.
1857 Worthen, Harry Niles
1847 Wright, Charles Rolla,
1839 Chauncey
1868 Collins
a David Minton
a Franklin
a Horatio Gates
1842 Joseph Cornwell
a William O.

Y

a Yates, Francis
1850 Young, Joseph E.

Z

Partial List of Roads upon which Graduates and Past Cadets of Norwich University have been employed as Consulting, Constructing Chief, Assistant or Division Engineers.

Albany Northern,
American Central,
Arequipa & Puno (Peru),
Auburn & Syracuse,
Baltimore & Ohio,
Boston & Lowell,
Boston & Providence,
Boston & Worcester,
Burlington & Missouri,
Camden & Atlantic,
Cincinnati Western,
California & Texas,
Canton-Hankow (China),
Cayuga & Susquehanna,
Central Vermont,
Central Military Tract,
Chicago & Alton,
Chicago & Danville,
Chicago & Northwestern,
Cincinnati, Peru & Chicago,
Cleveland & Pittsburg,
Columbus, Piqua & Indiana,
Connecticut & Passumpsic,
Connecticut Valley,
Corpus Christi, San Diego & Rio Grande,
Dallas & Wichita,
Delaware & Western,
Denver & Gulf,
Denver Pacific,
Denver, Texas & Fort Worth,
Des Moines & Northern,
Des Moines & Northwestern,
Drummond Co. (Quebec),
Elkhorn,
Everett & Monte Cristo,
Fitchburg,
Fort Wayne & Chicago,
Fort Worth & Denver City,
Gilman, Clinton & Springfield,
Grand Rapids & Lake Shore,
Guatemala Central,
Hartford & Springfield,
Hosaac Tunnel & Saratoga,
Housatonic,
Houston & Texas Central,
Houston, East & West Texas,
Hudson River,
Huntington & Broad Top,
Illinois & Wisconsin,
Illinois Central,
Indianapolis, Peru & Chicago,
International & Great Northern (Texas),
Iona & Lansing,
Jeffersonville,
Junction City & Fort Kearney,
Kansas Central,
Kansas City & Southern,
Kansas City, Emporia & Southern,
Kansas City, Memphis & Mobile,
Kansas City Street Railway,
Kansas Pacific,
Lackawanna & Bloomsburg,
Lake Ontario Shore,
Leavenworth, Lawrence & Fort Gibson,
Lee & Hudson,
Mahoney & Susquehanna,
Manchester & Keene,
Mansfield, Coldwater & Lake Michigan,
Marietta & Cincinnati,
Marion & McPherson,
Massachusetts Central,
Memphis & Charleston,
Memphis & La Grange,
Mexican Central,

Mexican International,
Mexican National,
Mexican Southern,
Milwaukee & Lake Winnebago,
Milwaukee & Mississippi,
Milwaukee & Watertown,
Minneapolis & Duluth,
Mineral Belt,
Minneapolis & Northwestern,
Minneapolis & St. Cloud,
Mississippi & Missouri,
Missouri, Kansas & Texas,
Mobile & Ohio,
Monterey & Mexican Gulf,
Montpelier & Wells River,
Mount Washington,.(N. H.)
Nashville & Decatur,
New Jersey Central,
New Orleans & Pacific,
Oregon Short Line,
Penn Yan, Keuka Park & Branch-Union Pacific,
port,
Peoria Branch, Rock Island,
Peoria & Burlington,
Peoria & Oquawka,
Pittsburg, Fort Wayne & Chicago,
Pittsfield & North Adams,
Plattsburgh & Montreal,
Pueblo and Arkansas Valley,
Pueblo & Salt Lake,
Racine & Mississippi,
Rock River Valley Union,
Rutland,
Rutland & Burlington,
St. Croix & Lake Superior,
St. Louis, Kansas City & Northern.
St. Paul & Chicago,
St. Antonio & Mexican Gulf,
San Francisco (Missouri),
Saratoga & Whitehall,
Sedalia, Warsaw & Southern,
Shepaug Valley,
Silver City Branch, Santa Fe System,
Southern Minnesota,
Sugar River,
Sullivan,
Sunbury & Erie,
Suncook Valley,
Texas Pacific,
Toledo, Oscaloosa & Western,
Transia, (Mexico)
Utica & Oswego,
Utica & Schenectady,
Vermont & Canada,
Vermont Central,
Vicksburg & Meridian,
Wabash,
Waterbury & Stowe,
West End, (Boston)
Whitehall & Plattsburg,
Wilmington & Reading,

and some 50,000 miles of preliminary surveys in addition.

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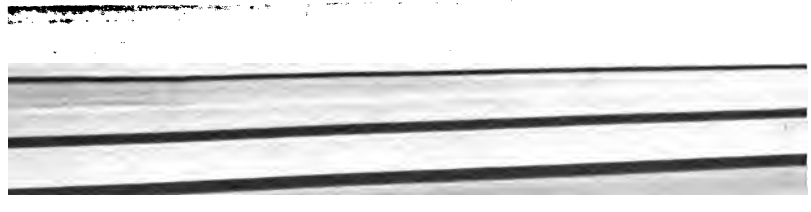

THE BUILDINGS FROM THE SOUTH.

CATALOGUE

OF

NORWICH UNIVERSITY,

The Military College of
the State of Vermont

1904-1905.

EIGHTY-SIXTH ACADEMIC YEAR

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CALENDAR.

FALL TERM, 1904.

September 22, Tuesday—Term began at Retreat.
December 20, Tuesday—Term ended 12 m.

WINTER TERM, 1905.

January 3, Tuesday—Term begins at Retreat.
February 22—Washington's Birthday.
March 24, Friday—Term ends at 12 m.

SPRING TERM, 1905.

April 4, Tuesday—Term begins at Retreat.
May 1, Monday—Dewey Day.
May 30, Tuesday—Memorial Day.
June 5—Examinations.
June 6-17—Annual Encampment.
June 18—Baccalaureate Sermon.
June 20—Prize Speaking.
June 20-21—Annual Meeting of Trustees.
June 21—Class Day, Alumni Exercises.
June 22—Commencement.
June 23—Entrance Examination. Term ends.

SUMMER SCHOOL, 1905.

August 15—1st and 2nd Classes meet at 10:00 a. m.
August 29—3rd Class meets at 10:00 a. m.

FALL TERM, 1905.

September 12—Entrance Examinations at 10:00 a. m.; Term begins at Retreat.
December 22—Term ends at 12:00 m.

WINTER TERM, 1906.

January 2—Term begins at Retreat.

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2. Aid to Undergraduates.
   PROFESSOR SHAW AND LIBRARIAN ELLIS.
3. Academic Standing and Degrees,
   PROFESSORS ROBERTS AND WINSLOW.
4. Reception of Students,
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NORWICH UNIVERSITY

WAS founded at Norwich, Vermont, in 1819, by CAPTAIN ALDEN PARTRIDGE, and was known as the American Literary, Scientific and Military Academy, being the pioneer *Engineering School* of the country, antedating all others by at least eight years. It retained the name until November 6, 1834, when a charter of incorporation was granted it by the State of Vermont, under the name of NORWICH UNIVERSITY, which thus became the *first* SCIENTIFIC AND CLASSICAL, as well as the first MILITARY, Collegiate Institution in the United States. Its success was immediate, and every State in the Union had, in its earlier days, representatives among its students.

In March, 1866, the buildings at Norwich was destroyed by fire, and the University was removed to Northfield, Vt., where the citizens had offered fine grounds and commodious barracks.

It is a characteristic and peculiar feature of the institution that, in addition to the usual collegiate courses, the charter requires "a course of military instruction, both theoretical and practical." For this reason, the discipline is, of necessity, military in form and principle, being modeled after that of the National Military Academy at West Point, of which Captain Patridge was, at one time, the Superintendent; and from its foundation to the present time it has held the distinction of being the foremost military institution in the land, West Point and Annapolis alone accepted. Her sons have done yeoman service in both army and navy; from her founder, Captain Partridge, and her second President, Truman B. Ransom, who resigned his chair to lead the 9th New England in the Mexican War (falling at the head of his regiment at the assault of Chapultepec, in September, 1847), through a long line of distinguished men in the Civil and Spanish Wars, until today, when her graduates are still to be found in both the services.

The late General William Tecumseh Sherman said of the University: "This military school at one time almost rivaled the National Academy at West Point, and there many a man,

who afterwards became famous in the Mexican and Civil Wars, first drank in the inspirations of patriotism and learned the lessons of the art of war."

To the discipline and instruction received at this institution is due the reputation acquired by many of the New England (and other) regiments; and the "Green Mountain Boys" (whose record in the Civil War is second to none) owe their success and renown, largely, to the training received within her halls. The Honor Roll of the Civil War numbers over 500 officers. The names of the most prominent generals are—G. M. Dodge, T. E. G. Ransom, R. H. Milroy, Joseph A. Mower, Edward A. Hatch, Truman Seymour, F. W. Lander, Seth Williams, G. P. Buell, H. S. Burton, P. V. Hagner, 14 colonels and brevet brigadier generals, 35 colonels, 34 lieutenant colonels, 34 majors, 155 captains, and a large number of commissioned officers of lower rank, making 467 in all. Among the prominent naval officers are—Rear Admirals Paulding, Boggs, Craven; Commodores Carpenter, Tattnal, Whiting, Graham; Captains Ward, Glynn, Hartstene and Colvocoresses; Lieut.-Commander Dewey, and many other officers of lower rank, making over 50 in all.

More than fifty of her Past Cadets served in the late war with Spain, chief among them being ADMIRAL DEWEY, the Victor of Manila, Brig.-Gen'l Williston, Brig.-Gen'l Edmund Rice (of whom General Miles has said that "he had the best regiment in the Army of the Potomac"), Captain Converse and Commander Colvocoresses of the Navy, and others of less rank in both branches of the service. A number of her Past Cadets are serving in both the Army and Navy on the active list.

COMMISSIONS IN THE ARMY

With the increased demand for officers of the Army which West Point is unable to supply, there is no reason why young men inclined to Army life should not prepare themselves for it, with as much certainty of success as for any other profession; and no better preparation can be found for obtaining a commission than the courses offered here.

It has always been, and still is, the highest endeavor of the Trustees and the Faculty to maintain, in every respect, the high military character of the University, bearing in mind the fact

that the aim of any scholastic institution should be not merely to graduate scholars, but to make men. To this end special attention is paid, not only to drill in the manual of arms, the execution of tactical movements and the necessary routine of a post, but also to the development of honor, truth, candor, self-respect and loyalty. While the discipline is strict, it is not severe. Control is more by privileges than by restrictions, leading the student to desire to do the right thing at the right time and in the right way. That discipline of this sort fits men not merely for military, but also for civil life, is shown by the success of Past Cadets in the clerical, legal, medical, engineering, journalistic and other professions. Some of the best of our railway engineering (such as that of the Union Pacific, Northern Pacific, Denver & Rio Grande, Mexican Central, Northwestern, Great Northern, and many of the roads in Central and South America) has been done in whole or in large part, by men who have been students at this institution.

RELATION TO STATE

The University is, "The Military College of the State," and the Corps of Cadets a part of the Vermont National Guard, known as "The Norwich Cadets." Each student is regularly enlisted. This recognition of the University and the financial aid given by the State are results of services rendered to the State and the Nation by graduates in the past, and are marks of approval in the present.

RELATION TO NATIONAL GOVERNMENT.

As one of the institutions from which the National Government may draw men qualified for service as officers in the Regular Army at all times and for the Volunteer Army in time of war, it has in charge of the military department an officer detailed from the regulars for that purpose and its arms and equipments are furnished from the national arsenals.

INSPECTION BY THE STATE AND NATIONAL GOVERNMENT.

Each Governor appoints a Board of Visitors to inspect the University at least once during his term, and the Inspector's Department of the United States Army makes an annual inspection of the institution.

REPORTS FROM INSPECTORS.

The reports from these various inspections are full of suggestions, as appears from the following extracts:—

S. Inspector 1893.

"Although the numbers are small, it is due the institution to say that in its military system, discipline and instruction, *it stands at the head of all the colleges in this inspection.*

S. Inspector 1897.

"An inspector finds himself out of place here, except in so far as his commendation may be of some use. Parents who are in search of some institution where self-control and self-discipline (all important factors in future success) are made prominent features, and receive special attention in the education, might do well to visit Norwich University."

"The system of discipline inaugurated by Captain Partridge in 1819 is still in force here, and is only modified to suit the higher condition of cultivation of the student. The discipline is still as strong, and the cadet is under a strict military regime every day and every hour that he spends at the University. He is marched to his meals, to prayers, to classroom and to church. He is taught to be neat in his person, regular in habits, and methodical in work."

S. Inspector 1903.

"If it be thought that the tone of this report is enthusiastic, that is as I intend it. I consider that this little college with its small numbers and resources, is given an immense return to the government for the use of its Cadet rifles and the services of Captain Hovey as Professor, and gives evidence of a military pride and ambition that will repay cultivation.

Captain Hovey is to be congratulated upon the result of his efforts and should receive any assistance that can properly be given him."

S. Inspector 1904.

"This is certainly one of the very best military schools in the country, and it is to be regretted that the law does not permit that assistance of a financial nature be given it. The work done is of a high grade, both Military and Academic, and schools of this character are of great benefit to the country as shown by the long list of graduates of this university, who have rendered valuable services in time of greatest need. Five hundred and seventeen have served as officers during the Civil war, and over fifty in like capacity in the war with Spain."

Board of Visitors 1903.

> "This system of physical culture, together with regular habits, makes the cadets uniformly healthy, and lays a sure foundation for future health and strength without which mental requirements are at a marked disadvantage.
>
> Besides, the knowledge of military science is a splendid achievment for the individual, and a source of strength to the State; for the senior classes are competent to officer a regiment and instruct it in all matters pertaining to military organization."

Board of Visitors, 1904.

> The instruction in Military science and tactics is thorough, and it is very interesting to watch the physical development of the newly entered freshmen, the undeveloped boy to the robust, self-reliant man. This system of physical culture, embodying, as it does, regular habits and exercises, produces perfect health, and lays a foundation for the future, without which mental acquirements are at a great disadvantage.

By her work for more than three-quarters of a century, Norwich University merits the confidence and generous support of the general public.

ADMISSION.

ADMISSION

Candidates for admission must be at least sixteen years of age, and must present satisfactory evidence of good moral character. Application blanks will be furnished by the President when requested. No person will be admitted who is less than five feet in height, or who is deformed, or afflicted with any disease or infirmity which would render him unfit for military duty, or who has at the time of presenting himself any disorder of an infectious or immoral character.

After matriculation and before enlistment, a physical examination is held by the surgeon, and this examination is repeated at intervals throughout the course. As a proof of the value of the physical exercises afforded by the military training, it may be stated that a recent Freshman class showed,

within six months, an average increase in weight of 6.69 pounds, in chest expansion of .71 in.; in girth of thigh of 1.28 in.; in girth of calf of .47 in.; in girth of arm of .41 in.; and in girth of forearm of 37 in., in no case was there a decrease.

EXAMINATIONS FOR ADMISSION

are held in Dodge Hall on the Friday after Commencement and on the first day of the Fall Term, at 10 a. m. *All new cadets are required to report at the last mentioned time.*

All candidates are examined in the following subjects:

MATHEMATICS.

Arithmetic; Algebra through Quadratics; Plane Geometry.

ENGLISH LANGUAGE.

Grammar; Composition with special attention to punctuation and the use of capitals.

GEOGRAPHY.

Physical and political geography.

HISTORY.

History of the United States and English or Ancient History

Those desiring to take the course in

SCIENCE AND LITERATURE

are examined also in

LATIN:

Cæsar's "Commentaries," four books, or Sallust's "Cataline;" Virgil's "Æneid," six books; Cicero, four orations.

Those desiring to take the course in

ARTS,

in addition to all the above, are examined in

GREEK:

Xenophon's "Anabasis," four books, or one hundred pages Goodwin's Greek Reader; Homer's "Iliad," two books.

ADMISSION BY CERTIFICATE

Graduates from approved High Schools or Academies may be admitted upon certificates. Candidates for advanced standing must pass satisfactory examinations in the studies already completed by the class which they propose to enter, as well as in those required for admission. Those, however from other colleges should bring certificates of honorable dismissal, and marks showing standing. The latter may, on approval by the Faculty, be taken in lieu of examination. No student under sentence of suspension or expulsion from any other institution will be received. Students are considered as on probation for eight weeks.

COURSES OF INSTRUCTION.

THE MILITARY COURSE

is prescribed by the War Department and is obligatory for all students, proficiency therein being required as an essential to graduation.

The University is placed by the War Department in the highest class of institutions to which officers are detailed, and is the only collegiate institution in New England so classed. The military curriculum is prescribed in General Order 94, Headquarters of the Army, as follows :

Infantry Drill through School of Battalion.	Guard Mounting, Escort of Colors
	Target Practice.
Advance and rear guards and outposts.	First Aid to injured.
	Artillery Drill.
Marches.	Mechanical Manœuvers.
Battalion Review, Inspection, Parades.	Aiming Drill and Target Practice.

THEORETICAL.

Drill regulations to cover practical instruction.
Manual of Guard Duty.
Small Arms firing regulations.
Articles of War, with special reference to certain selected articles.
Records, enlistment, discharge papers, descriptive lists, morning reports, field and monthly returns, muster rolls, rosters, ration returns, requisitions, property returns.
Lectures on—
Organizations of the Army, patrols and outposts, marches, camps, and camp hygiene, lines and bases of operations, attack and defence of advance and rear guards, outposts and convoys.
Elements of Field Engineering.
The Art of War (elementary).

Drills are held for one hour daily (Saturdays and Sundays excepted) throughout the year.

Recitations are held as noted under the different academic courses.

The Cadets are at all times under military discipline, and strict observance of military customs is required. The daily routine of an army post, including the mounting of the guard and formations for drill and parade is observed.

The Cadet officers are appointed, under the orders of the War Department, in accordance with the customs obtaining at West Point.

Cadets are not eligible to appointment as non commissioned officers till they have served one year doing full military duty, nor to appointment as commissioned officers till they have served two years doing full military duty.

ENCAMPMENT. An encampment of ten days is held at the close of the spring examinations, and the Cadets receive instructions in the details of camp life. This encampment is an essential portion of the Military Course and all Cadets who are in attendance during any portion of the spring term are required to be present thereat, as a part of the obligation assumed by them upon enlistment. There is at this time an inspection by the Adjutant-General of the Vermont National Guard, or by an officer detailed for the purpose.

PRACTICE MARCHES. The Encampment may be varied by practice marches about the State. During the encampment, and on the march, the Cadets are at all times under the immediate supervision of the Commandant, who is responsible for their conduct.

ACADEMIC COURSES.

Four regular courses have been established, as follows:

I. Civil Engineering.
II. Arts.
III. Chemistry.
IV. Science and Literature.

The courses in Civil Engineering and Chemistry have a distinctly practical bearing, and give a thorough training for these technical professions.

The course in Arts embraces the usual classical course with French or German, Physical Science, etc., etc.

The course in Science and Literature is intended for such as may not wish to pursue a full course in Classics or Mathematics, or one for a distinctly scientific profession. It is so arranged that it may be taken either with or without Latin. Candidates for this course without Latin will be required to show an equivalent amount of work in other branches.

Each of these courses extends through four years, and is intended to give the student a liberal preparation for the duties of life.

Changes are made in the course in Chemistry to meet the wants of students preparing for Medicine and Pharmacy.

I. THE COURSE IN CIVIL ENGINEERING.

Leading to the degree of Bachelor of Science in Civil Engineering.

NOTE.—The figures after each subject indicate the number of recitation periods of sixty minutes each per week.

FRESHMAN YEAR.

FALL TERM.

Algebra.....5	Rhetoric.....3
French or German.....3	Free-hand Drawing.....4
Inorganic Chemistry.....3	Military Recitations.....1

WINTER TERM.

Solid Geometry.....3	Lettering.....2
Trigonometry.....2	Tinting and Shading.....2
French or German.....3	Military Recitations.....1
Rhetoric.....3	Inorganic Geometry.....3

SPRING TERM.

Trigonometry.....3	Rhetoric.....4
Analytical Geometry.....2	Mechanical Drawing.....4
French or German.....3	Military Recitations.....1
Inorganic Chemistry.....3	

SOPHOMORE YEAR.

Summer school of 96 hours beginning on the 29th day of August.

FALL TERM.

French or German.....3	Descriptive Geometry and Drafting.....6
Mechanics and Heat.....3	Military Recitations.....2
Land Surveying, Leveling and Field Work.....6	Analytical Geometry.....5

WINTER TERM.

Differential Calculus.....5	Descriptive Geometry and Drafting.....6
French or German.....3	Constructive Drawing.....4
Acoustics and Optics.....3	Military Recitations.....2

SPRING TERM.

Integral Calculus.....5	French or German.....3
Advanced Surveying, Topographical and Municipal.....7	Electricity and Magnetism.....3
	Shades and Shadows.....6
	Military Recitations.....2

JUNIOR YEAR.

Summer school of 196 Hours beginning on the 15th day of August.

FALL TERM.

Rational and Applied Mechanics..5
Stone Cutting.....4
Geology.....3
Geodetic and Mining Surveying..5
Colored and Pen Topography....3
Military Recitations.....2

WINTER TERM.

Mechanics of Materials.....5
Blowpipe Analysis and Determinative Mineralogy.....4
Qualitative Analysis.....2
Trusses and Arches.....2
Graphics of Simple Trusses and Arches.....4
Military Recitations.....2

SPRING TERM.

Mechanics of Engineering—Hydraulics, Retaining Walls, Masonry Dams.....5
Railroad Engineering.....9
Bridge Stresses.....8
Military Recitations.....2

SENIOR YEAR.

Summer School of 196 Hours beginning on the 15th day of August.

FALL TERM.

Commercial Law.....3
Metallurgy.....2
Bridge Designing.....6
Railroad Maps.....3
Water Supply.....4
Military Recitations.....2

WINTER TERM.

Constitutional or International Law.....3
Sanitary Engineering.....3
Materials of Engineering.....5
Design of Bridges.....6
Meterology.....2
Military Recitations.....2

SPRING TERM.

Spherical Astronomy—Determination of Time, Latitude, etc.....5
Contracts and Specifications.....3
Political Economy.....3
Highway Engineering.....2
Military Recitations.....2
Thesis.....3

II. THE COURSE IN ARTS.

Leading to the Degree of Bachelor of Arts.

FRESHMAN YEAR.

FALL TERM.

Algebra.....5	Rhetoric.....3
Xenophon, Memorabilia.....3	Inorganic Chemistry.....3
Livy, Books I and XXI or XXII..3	Military Recitations.....1

WINTER TERM.

Trigonometry.....2	Rhetoric.....3
Solid Geometry.....3	Inorganic Chemistry.....3
Stories from Herodotus.....3	Military Recitations.....1
Tacitus—Germania and Agricola..3	

SPRING TERM.

Trigonometry.....3	Rhetoric.....3
Homer's Odessey, Parts of	Inorganic Chemistry.....3
Books VI to XIII.....3	Military Recitations.....1
Cicero—	
De Senectute, De Amicitia.....3	

SOPHOMORE YEAR.

FALL TERM.

Aristophanes, Clouds.....3	State.....3
Juvenal's Satires or Ovid.....3	English Literature.....3
Mechanics and Heat.....3	Military Recitations.....2
Land Surveying.....6	

WINTER TERM.

Sophocles Oedipus Tyrannus....3	State.....3
Horace—Odes and Epodes.....3	English Literature.....3
Acoustics and Optics.....3	Military Recitations.....2

SPRING TERM.

Æschylus Prometheus Bound ...3	State.....3
Horace—Satires and Epistles....3	English Literature.....3
Electricity and Magnetism.....3	Military Recitations.....2

[redacted]

[redacted]

[redacted]

WINTER TERM.

Solid Geometry.....3	Rhetoric.....3
Trigonometry.....2	Lettering.....2
French or Latin.....3	Tinting and Shading.....2
Inorganic Chemistry 3	Military Recitations.....1

SPRING TERM.

Trigonometry 3	Rhetoric.....3
French or Latin.....3	Mechanical Drawing.....4
Inorganic Chemistry.....3	Military Recitations..... 1
Qualitative Analysis.....5	

SOPHOMORE YEAR.

FALL TERM,

French or Latin.....3	Stoichiometry.....3
Mechanics and Heat.....3	English Literature.....3
Qualitative Analysis.....10	Military Recitations.....2

WINTER TERM.

French or Latin.....3	Quantitative Analysis.....6
Acoustics and Optics.....3	English Literature.....3
Blowpipe Analysis.... 6	Military Recitations.....2
History of Chemistry.....1	

SPRING TERM.

French or Latin 3	Organic Chemistry. 5
Electricity and Magnetism.....3	English Literature. 3
Quantitative Analysis.....10	Military Recitations.....2

JUNIOR YEAR.

FALL TERM.

Geology.....3	Zoology.....2
Organic Chemistry.....4	English Literature.....3
Organic Chemistry, Laboratory..6	German 3
Industrial Chemistry.....3	Military Recitations.....2
Toxicology.....2	

WINTER TERM,

Organic Chemistry.....4	English Literature.....3
Organic Chemistry, Laboratory..6	German.....3
Industrial Chemistry.....5	Military Recitations.....2
Assaying.....2	

SPRING TERM.

Organic Chemistry.....4
Organic Chemistry, Laboratory..6
Analytical Methods Conf.....5
German.....3
English Literature.....3
Botany.....3
Military Recitations.....2

SENIOR YEAR.

FALL TERM.

Commercial Law.....3
Electrochemistry.....6
Metallurgy.....2
German.....3
Medical Chemistry.....6
Military Recitations.....2

WINTER TERM.

Microscopy.....2
Constitutional Law.....3
International Law.....3
German.....3
Water Analysis.....6
Sanitary Chemistry.....6
Meterology.....2
Military Recitations.....2

SPRING TERM.

Political Economy.....3
German.....3
Chemistry Thesis.....20
Military Recitations.....2

IV. THE COURSE IN SCIENCE AND LITERATURE.

Leading to the Degree of Bachelor of Science.

(Subjects in brackets [ ] for students not taking Latin.)

FRESHMAN YEAR.

FALL TERM.

Algebra.....5
Livy and Latin Prose.....3
Inorganic Chemistry.....3
Rhetoric.....3
French.....3
[Free-hand Drawing.....4]
Military Recitations.....1

WINTER TERM.

Geometry.....3
Trigonometry.....2
Tacitus—Germania.....3
Inorganic Chemistry.....3
Rhetoric.....3
French.....3
[Lettering, Tinting and Shading.....4]
Military Recitations.....1

SPRING TERM.

Trigonometry.....3
[Analytical Geometry.....2]
Cicero—DeSenectute, DeAmicitia.3
Inorganic Chemistry.....3
Rhetoric.....3
French.....3
[Mechanical Drawing.....4]
Military Recitations.....1

SOPHOMORE YEAR.

FALL TERM.

Juvenal's Satires.....3	State.....3
Mechanics and Heat.....3	English Literature.....3
French.....3	[Analytical Geometry.....5]
Land Surveying.....6	Military Recitations.....2

WINTER TERM.

Horace—Odes and Epodes.....3	English Literature.....3
Acoustics and Optics.....3	[Differential Calculus.....5]
French.....3	Military Recitations.....2
State.....3	

SPRING TERM

Horace—Satires and Epistles....3	English Literature.....3
Electricity and Magnetism.....3	[Integral Calculus.....5]
French.....3	Military Recitations.....2
State.....3	

JUNIOR YEAR.

FALL TERM.

German.....3	State.....3
Geology.....3	English Literature.....3
Zoology.....2	Military Recitations.....2

WINTER TERM.

German.....3	State.....3
Qualitative Analysis.....6	English Literature.....3
Blowpipe Analysis.....4	Military Recitations.....2

SPRING TERM.

German.....3	State.....3
Botany.....3	English Literature.....3
Qualitative Analysis.....6	Military Recitations.....2

SENIOR YEAR.

FALL TERM.

German.....3	Psychology.....3
Commercial Law.....3	Military Recitations.....2
Metallurgy.....2	

WINTER TERM.

German 3	Constitutional Law. 3
International Law.....3	Logic 3
Meterology 2	Military Recitations.....2

SPRING TERM.

German 3	Ethics.....3
Political Economy.....3	Military Recitations..... .2
Astronomy 5	

ALL COURSES
JUNIOR AND SENIOR YEARS—
PUBLIC SPEAKING.

SUMMER SCHOOL OF ENGINEERING.

Students of the first class spend the four weeks previous to the opening of the acedemic year in actual practice in railroad surveying. They study the characteristics of some area in or about Northfield for the purpose of determining its adaptability to railroad location and make the complete survey necessary for the construction of a railroad of two or three miles length.

In addition to the above, considerable time is given to triangulation and geodetic surveying.

Students of the second class are given four weeks of general surveying and office calculations involving principally the methods of topographical surveying by transit and stadia combined with cross-sectioning. Some time is spent in the study of problems involved in municipal engineering; sewers, grades, profiles of streets, sidewalks, etc.

Students of the third class are required to attend lectures upon the use and care of instruments. Special attention is giveu to the use of the

TEXT BOOKS AND BOOKS OF REFERENCE.

MATHEMATICS.

Algebra.....Wells' University
Geometry.....Phillips & Fisher
Trigonometry...Phillips & Strong
Analytical Geometry....Tanner & Allen.
Calculus.....Taylor, (Revised)
Descriptive Geometry.....Church
Mechanics.....Wright
Least Squares.....Merriman
Astronomy .....White
Technique of Mechanical Drawing.....Reinhardt

ENGINEERING.

Surveying.....Johnson
Railroad Surveying.....Nagle
Graphics.....Merriman & Jacoby
Civil Engineering..Paton & Trautwine.
Specifications.....Johnson
Water Supply.....Turneaure & Russell.
Materials of Construction, Johnson
Sanitary Engineering.....Folwell
Lettering.....Reinhardt, Wilson
Stereotomy .....Mahan
Stresses in Framed Structures, Johnson & Bryant.
Wellington's Earth Work Computation.
Foundations .....Paton
Bridge Designing.....Merriman
Hydraulics. .....Merriman

SCIENCES.

Botany—Gray's Manual and Lessons.
Chemistry—Inorganic.....Newth
Chemistry, Analysis, Qualitative, ...Elliot, Fresenius
Volumetric Analysis, Schimpf, Sutton.
Analysis, Quantitative.....Evans, Julian.
Industrial Chemistry.....Sadtler, Thorpe.
Blowpipe, Plimpton's Qualitative, Plattner's Qualitative and Quantitative, by Cornwall.
Zoology .....Packard
Metallurgy and Assaying, Hiorn's Text-Book of Elementary Metallurgy, Hiorn's Practical Metallurgy and Assaying.
Medical Chemistry, Ralfe's Clinical Chemistry.
Organic..Appleton's Experiments, Remsen.
Food Adulteration and its Detection .....Battershall, Blyth
Toxicology .... Blyth
Physics—Principles of Physics, Gage.
Meteorology—Elementary Meteorology, Waldo.
Meteorology—Realm of Nature Mill.
Meteorology—Handbook of Meteorology. Hann.
Geology.....Le Conte
Mineralogy, Dana's Manual, and Foye's Tables.

MODERN LANGUAGES.

French...Whitney's French Grammar.
Super's French Reader.
French Literature.
German.....Rosenthal's German Lessons,
Joynes'-Meissner German Grammar.
Huff's German Reader.
German Literature.

HISTORY, POLITICAL SCIENCE AND LAW.

English.....Montgomery
Political Economy.....Walker
Psychology.....James
Logic.....Jevons
Ethics.....Hyde
International Law.....Davis
Constitutional Law.....Cooley
Commercial Law.....Townshend
The State.....Wilson
Documents of American History.
American Commonwealth...Bryce

ENGLISH.

Rhetoric.....Hill's Principles of Practical Rhetoric.
Genung's Practical Rhetoric.
Lewis' Inductive Rhetoric.
Elocution.....Clark's Notes on Reading.
Bacon's Manual of Gesture.
English Literature.....Arnold

MILITARY SCIENCE.

Drill Regulations for Infantry and Artillery.
Small Arms Firing Regulations.
Wagner's Organization and Tactics.
Wagner's Security and Information.
Batchelor's Fire Discipline.
Winthrop's Military Law.
Manual of Field Engineering.
Also other books and publications which are found suitable for instruction in military work.

DEGREES, ETC.

The candidate for any degree must deposit with the faculty a satisfactory thesis on some scientific or literary subject connected with his department.

DEGREES OF GRADUATION. The degree of Bachelor of Science in Civil Engineering is conferred upon any student who has completed the course in Civil Engineering.

The degree of Bachelor of Arts is conferred upon any student who has completed the course in Arts.

The degree of Bachelor of Science in Chemistry is conferred upon any student who has completed the course in Chemistry.

The degree of Bachelor of Science is conferred upon any student who has completed the course in Science and Literature.

ADVANCED DEGREES. The degree of Master of Arts, or Master in Science, including that of Civil Engineer, may be conferred on graduates of two years' standing of this or any other reputable college, who have spent at least one year in post-graduate studies under the direction of the faculty, and on graduates of three years' standing who have during that time been engaged in professional, literary or scientific pursuits, or have pursued a course of liberal study, subject to the approval of the faculty.

Candidates for either degree are required to present a thesis upon some branch of liberal study pursued since graduation, and to pass an examination before the faculty. The thesis must be presented at least three weeks before commencement and a copy furnished to be placed in the library of the University.

TEACHER'S CERTIFICATES. Graduates of the University who may wish to engage in teaching in Vermont are entitled to a five years' teacher's certificate without examination.

COMMISSIONED OFFICERS. Upon graduation, Cadet officers receive commissions in the Norwich Cadets, signed by the President of the University, and by the Adjutant and Inspector-General of the State. The Board of Visitors have recommended that those who are residents of Vermont, be, upon special recommendation of the President, commissioned as additional Second-Lieutenants in the Vermont National Guard.

LIBRARY.

The Library of some 10,000 volumns, for the present located in Dewey Hall, is fairly equipped with reference books to accord with the work of the University.

ACADEMIC COURSES.

Four regular courses have been established, as follows

I. Civil Engineering.
II. Arts.
III. Chemistry.
IV. Science and Literature.

The courses in Civil Engineering and Chemistry hav distinctly practical bearing, and give a thorough training these technical professions.

The course in Arts embraces the usual classical course w French or German, Physical Science, etc., etc.

The course in Science and Literature is intended for s as may not wish to pursue a full course in Classics or Mat matics, or one for a distinctly scientific profession. It is arranged that it may be taken either with or without La Candidates for this course without Latin will be require show an equivalent amount of work in other branches.

Each of these courses extends through four years, and intended to give the student a liberal preparation for the du of life.

Changes are made in the course in Chemistry to meet wants of students preparing for Medicine and Pharmacy.

I. THE COURSE IN CIVIL ENGINEERING.

Leading to the degree of Bachelor of Science in Civil Engineering.

NOTE.—The figures after each subject indicate the number of recitation periods of sixty minutes each per week.

FRESHMAN YEAR.

FALL TERM.

Algebra.....5	Rhetoric.....3
French or German.....3	Free-hand Drawing.....4
Inorganic Chemistry.....3	Military Recitations.....1

WINTER TERM.

Solid Geometry.....3	Lettering.....2
Trigonometry.....2	Tinting and Shading.....2
French or German.....3	Military Recitations.....1
Rhetoric.....3	Inorganic Geometry.....3

SPRING TERM.

Trigonometry.....3	Rhetoric.....4
Analytical Geometry.....2	Mechanical Drawing.....4
French or German.....3	Military Recitations.....1
Inorganic Chemistry.....3	

SOPHOMORE YEAR.

Summer school of 96 hours beginning on the 29th day of August.

FALL TERM.

French or German.....3	Descriptive Geometry and Drafting.....6
Mechanics and Heat.....3	Military Recitations.....2
Land Surveying, Leveling and Field Work.....6	Analytical Geometry.....5

WINTER TERM.

Differential Calculus.....5	Descriptive Geometry and Drafting.....6
French or German.....3	Constructive Drawing.....4
Acoustics and Optics.....3	Military Recitations.....2

SPRING TERM.

Integral Calculus.....5	French or German.....3
Advanced Surveying, Topographical and Municipal.....7	Electricity and Magnetism.....3
	Shades and Shadows.....6
	Military Recitations.....2

Students should bring all their bed linen (for single bed), blankets, pillow and towels.

Laundry facilities are accessible in the village at reasonable rates.

PAYMENT OF BILLS. *All bills are payable in advance, by the first Friday of each term, and cadets will not be admitted to the privilege of the section rooms until their bills are paid.* The Treasurer will be in attendance at his office daily, until the expiration of the time for this payment.

If for any reason delay in payment is desired, satisfactory arrangements must be made therefor in writing, prior to this time.

No student will be admitted when bills for the preceding year have not been paid or satisfactorily adjusted with the Treasurer.

FEES. Students in the Course in Chemistry pay a fee of $8 per term for chemicals during the Sophomore, Junior and Senior years.

In the Engineering course in Qualitative Analysis, $3 is charged in the second term of the Junior year. In the other courses a fee of $5 per term is charged for Qualitative Analysis.

A fee of $3 per term is charged for Determinative Mineralogy.

A chemical fee of $1 per term is charged members of the Freshman class.

The charges are for chemicals, and do not include breakage or waste of materials.

The fee for the Summer School in the Engineering Course is $10 for 1st and 2nd Classes, $5.00 for 3rd Class; persons, not cadets, who are properly prepared, may join this school, the fee being $25. Subsistence and other necessary expenses are not included in these amounts.

A fee of $1.00 per term is charged to Engineering students engaged in field work.

The diploma fee on graduation is $10.

A deposite of 50 cents is required for each room key obtained by a cadet; returnable when the key is returned.

DEWEY HALL.

STATE SCHOLARSHIPS.

Each Senator of the State of Vermont has the following appointments :

Once during his term of office, a Cadet to a scholarship covering tuition and room rent for two years.

Each year, a Cadet to a scholarship covering tuition for four years.

The above scholarships are for applicants resident in Vermont.

The following scholarships covering tuition only are available to aid deserving students.

The CHAUNCEY DENNY Scholarship, founded by the will of the late Chauncey Denny of Northfield, for many years a member of the Board of Trustees, first for the benefit of his kinsfolk, and next for the benefit of residents of Northfield.

The HAMILTON ELLIOTT PERKINS Scholarships, three in number, founded by Miss Susan Perkins of Concord, New Hampshire, in memory of her father, the Hon. Hamilton Eliot Perkins, of the Class of 1824, for the benefit of deserving students from New Hampshire.

The COL. JESSE AUGUSTUS GOVE Scholarship, founded by his widow, Mrs. Jesse A. Gove, and his daughter, Mrs. James M. Killeen, of Concord N. H., in memory of Col. Jesse A. Gove, '49, for the benefit of deserving students from New Hampshire.

The Scholarship of the Class of 1899.
The Scholarship of the Class of 1900.
The Scholarship of the Class of 1901.
The Scholarship of the Class of 1902.
The Scholarship of the Class of 1903.

POSITIONS FOR ALUMNI. Alumni desiring positions should send their addresses to the President, as he is frequently in receipt of applications for our men.

THE REVEILLE. The Cadets conduct a monthly magazine devoted to the interests of the University, the Alumni, and the Corps.

STUDENTS' SOCIETIES. Two fraternities, Alpha Sigma Pi and Theta Chi, exist among the students. Valuable literary work is done and proper social advantages enjoyed.

RELIGIOUS FEATURES. Prayers are held in the morning before the opening of academic exercises, the president officiating. On Sunday morning each cadet is required to attend divine service with some one of the village congregations, the choice being made at the beginning of, and adhered to, throughout the term. The religious societies of the village are: Congregational, Protestant Episcopal, Methodist Episcopal, Roman Catholic and Universalist.

The University is non-sectarian.

COLOR SALUTE At the close of the Chapel exercises each morning, follows the color salute, a unique and interesting ceremony suggestive of the respect due to the Nation and the National Emblem.

ACADEMIC HONORS. A cadet having a general average for the year of 90 or more receives "honorable mention;" having 90 or more in all branches for the year receives "very honorable mention." One receiving 90 or more in all branches for the whole course is graduated "with highest honors;" one receiving "honorable mention" for each year in the course is graduated "with very high honor." "Honorable mention" in any subject is made of any Cadet who receives 90 or more in the subject for the current year, or for one term, when the subject is completed in that term. If "honorable mention" is made in any branch, on the completion thereof, the recipient is graduated "with honors in———." If "honorable mention" is made in two or more branches, the recipient is graduated "with honors in ———and———."

These mentions are made at Commencement and published in the catalogue.

The names of the three members of the Senior Class, who are most distinguished in the Military department are reported to the Secretary of War, and are published in the Army Register of the year following.

The names of all those members of the Senior class who

have shown special aptitude for military service are reported to the Secretary of War and the Adjutant General of the State.

THE SHELDON PRIZE SPEAKING. Three prizes of $15, $10 and $5 respectively, are given to the three of the eight competitors from the Sophomore and Freshman classes who show the greatest merit in declamation or debate, in a contest held during Commencement week These competitors are chosen at a preliminary contest held early in the spring term, *in which all members of both classes are required to participate*, as a portion of the course in rhetoricals. Prize winners in previous contests are debarred from competing.

THE AUSTIN TROPHY. Mr. Fred T. Austin M. S. (1888) 1st Lieutenant, Artillery Corps, U. S. Army, has established an annual trophy, consisting of three medals, of gold, silver and bronze, respectively, given to the three Cadets making the highest score at target practice, the winners holding them for one year, provided they remain members of the University.

THE FACULTY GOLD MEDAL. This medal is bestowed upon the member of the Senior Class who has the highest academic standing from entrance to the close of the winter term of the Senior year.

THE THOMAS MEDAL. Mr. Geo. D. Thomas, M. A. (1876), gives annually a gold medal to the Cadet who has the highest general average for the year ending with the close of the winter term; this competition is open to the three *Senior* classes.

THE SHUTTLEWORTH SWORD Captain E. A. Shuttleworth, U. S. A., M. S. (1891), gives annually, a regulation foot-officers sword to the member of the Junior class having the highest military standing from entrance to the close of the Junior year.

THE JUCKETT MEDAL. The Hon. Elmer R. Juckett, M. S. (1889), gives annually a gold medal to the member of the base ball team, either regular or substitute, who has the highest academic standing for the year.

THE SOPHOMORE PRIZES. A silver medal is given by the President to each of the three members of the Sophomore class, whose general average, military and academic standing, respectively, are the highest.

THE FRESHMAN PRIZES. A silver medal is given by the President to each of the three members of the Freshman class, whose general average, military and academic standing respectively, are the highest.

STANDING, ETC. Academic standing depends upon recitations; military standing upon marks of merit and demerit, together with proficiency in military duties; the general average is determined by combining the academic and military standings, the former counting two and the latter one. Immoralities, technical and minor offences, are marked with demerits, and are punishable in other ways. Whenever purely academic duties require variation in special matters, the analogies of military usage are maintained so far as practical.

UNIFORM. The dress uniform consists of a dark blue blouse, with standing collar, dark blue trousers with red stripe, black cravat, white linen standing collar, U. S. regulation forage cap, boots or high shoes of black leather. A dark blue overcoat *of University pattern* may be worn with this uniform under certain restrictions. The fatigue uniform for daily wear is of Army material; and of University pattern, costing from $12 to $15.

The dress uniform is made of a special standard cloth, by the University contractor, at a cost of $25.50, including a cap and one pair of white gloves.

ABSENCE. The number of leaves involving absence over Sunday without affecting the record of a cadet is limited to two per term, any further absence will be counted as unexcused, and will effect the record for deportment and military standing.

Generally speaking, students are expected to remain in attendance during the whole of a term, unless granted special leave of absence. Parents and guardians are requested to restrict their applications for leave for their sons or wards to cases of actual necessity.

Those who are absent for any cause for 20 per cent. or more of the assigned recitations in any subject, are required to pass an extra examination, having a weight in the term mark equal to the per cent. of absences. If 15 per cent. or more of absence occurs within four consecutive weeks, the recitations lost are required to be made up by examination within a week of return. If a Cadet leaves during a term for any cause except for continued sickness, no reduction is made in the term bill; in case of sickness, the loss is shared equally by the Cadet and the University.

ATHLETICS. The Athletic Association is governed directly by a committee consisting of members of the Faculty, the Alumni and the Cadets, who make such regulations and arrangements regarding athletic matters as may seem proper. The general relation of athletics to the University is under the control of the Faculty Committee on athletics. The registered colors are maroon and old gold.

LOCATION. The University buildings are on the borders of Northfield, a thriving village of some two thousand inhabitants. The railroad, telegraphic and telephonic connections are excellent. The sources of water supply are pure springs high on the near-by hills.

Elevation above sea level 876 feet.

MILITARY EQUIPMENT. For drill purposes the Artillery equipment consists of two Hotchkiss three-inch mountain guns; and for study, two Napolion guns, two modern Armstrong guns and numerous rapid fire guns, Gatlings, Maxims, etc.

The small arms are of the regular army type, with which range work is done up to six hundred yards.

FACULTY COMMITTEES. These committees have been elected to facilitate the work of the faculty in looking after the various interests of the University.

The committees take up the work assigned them and upon its completion report to the faculty, to which body they are responsible.

ALUMNI RELATIONS. Believing that the corner stone of an institution's success rests upon the continued active interest of those who have been members of its

of graduates and students, that they may keep in touch with one another and with the University. It is the intention of the Faculty Committee on Alumni Relations to work for the bringing about of intimate relations between the University and all of her Sons. Suggestions in this line by the Alumni are requested.

ALUMNI TALKS There has been inaugurated a plan for getting the Alumni who have been engaged in practical work to give to the students, talks upon subjects pertaining to their studies. Several of these talks have been given during the year, and have been very popular—as showing the practical side of the various courses.

REDUCED FARES The Central Vermont and Rutland Railroads carry students for two cents per mile, on certificates, to be obtained through the President. To secure these, application should be made not later than

ASSOCIATE ALUMNI AND PAST CADETS.

By action of the Trustees and in accordance with th amended charter, the Alumni and Past Cadets are entitled t nominate one member of the Board of Trustees each yea The meetings of the Association are held in Dodge Hall a nually, on the evening preceding Commencement, at eig o'clock.

OFFICERS FOR 1904—1905.

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H. C. CADY, '91, *Northfield, Vt.*
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Members of the Association not present may vote by writ ten ballot at the annual election of Trustees. It is therefor important that each member keep the Secretary informed o his full address, and notify him promptly of any change.

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W. N. JONES, *Room 218, 1 Broadway.*

COMMENCEMENT 1904.

Baccalaureate Sermon.

REV. W. S. HAZEN, D.D.

DEGREES CONFERED.

GRADUATION:

Bachelor of Science in Chemistry,

JOSEPH EDMUND MCGREEN,
GUY GARFIELD RUSSELL.

Bachelor of Science in Civil Engineering,

CHARLES FRANKLIN GALLUP,
RALPH LEON GILMAN,
WILLIAM SELDEN HUTCHINSON,
EARL D. PERRY,
HOMER E. C. RAINEY,
GEO. CHRISTOPHER RANDALL,
WM. ELBRIDGE C. WASHBURN.

IN COURSE—

CAPT. JOHN M. STANYAN, as for Class '50, A.B.
JOSIAH HALL, as for Class '61, B.S.
CHARLES E. BUSH, as for Class '63, B.S.
WM. S. VERNON, as for Class '63, B.S.
PARIS M. FLETCHER, as for Class '87, B.S.
S. BURTON ADAMS, as for Class '90, C.E.
GEO. L. BALLOU, as for Class '91, C.E.

HONORARY—

HONOR LIST.

Valedictorian and Gold Medalist.

GEORGE CHRISTOPHER RANDALL.

Salutatorian,

GUY GARFIELD RUSSELL.

Commencement Speakers,

WILLIAM SELDEN HUTCHINSON,
HOMER E. C. RAINEY,
WILLIAM E. C. WASHBURN,

Most Distinguished in Military Department,

GEO. C. RANDALL,
W. S. HUTCHINSON,
W. E. C. WASHBURN.

Winners in Prize Speaking Contest,

BURTON MUNROE SHEPARD,
WILLIAM SAFFORD CLARKE.
HARRY CHADWICK PRATT.

Winners of Austin Trophy.

Gold, SERGT. H. J. BETTERLY,
Silver, LIEUT. R. L. GILMAN,
Silver, PRIVATE W. J. MARTIN,
Bronze, PRIVATE C. R. ANDREW.

Winner of Thomas Medal,

ERNEST A. LAWRENCE.

Winner of Shuttleworth Sword,

ERNEST A. LAWRENCE.

Winner of Juckett Medal,

I. H. MEARS.

Winners of Sophomore Medals,

General Average, D. H. GILMAN,
Military Standing, { H. J. BETTERLY, B. P. HOVEY,
Academic Standing, H C. EDGERTON.

Winners of Freshman Medals.

General Average, H. C. PRATT,
Military Standing, J. H. MEARS,
Academic Standing, H. C. PRATT,

BATTALION ORGANIZATION.

MAJOR HENRY W. HOVEY, 23D U. S. INFANTRY,
Commandant.

CADET MAJOR, HARRY RAYMOND DEAL.
CADET ADJUTANT, 1ST LIEUT. EDWARD MOORE.
CADET QUATERMASTER, 1ST LIEUT. JOHN JOSEPH HOWARD.
CADET SARGEANT MAJOR, CLARENCE RAYMOND ANDREW.
CADET COLOR SERGEANT, JOSEPH CLEOPHAS COULOMBE.

COMPANY A.

CADET CAPTAIN, ERNEST ALLEN LAWRENCE.
CADET 1ST LIEUT., BRADFORD PIERCE HOVEY.
CADET 2D LIEUT., SIDNEY WALLACE BAMPTON.
CADET 1ST SERGEANT, CHARLES RALPH HARTWELL.

COMPANY B.

CADET CAPTAIN, JOY CLYDE ROSS.
CADET 1ST LIEUT., DANA HOWES GILMAN.
CADET 2D LIEUT., LUDLOW OSMOND BARKER, JR.
CADET 1ST SERGEANT, DANIEL ROGERS BARNEY.

COMPANY C.

CADET CAPTAIN, PERCIVAL CREIGHTON SINCLAIR.
CADET 1ST LIEUT., HUGH JAMES BETTERLEY.
CADET 2D LIEUT., JOSEPH HAROLD DENNY.
CADET 1ST SERGEANT, CLARENCE ARTHUR TENNY.

SENIOR CLASS.

Name.	Course.	Home Address.
Ralph Alburton Booth,	Arts	*Morrisville*
Joseph Cleophas Coulombe,	C. E	*Island Pond*
Harry Raymond Deal,	Ch	*Piermont, N. H.*
Joseph Harold Denny,	Ch	*Northfield*
John Joseph Howard,	Ch	*Bellows Falls*
Ernest Allen Lawrence,	C. E.	*Montpelier*
Edward Moore,	S. & L.	*Island Pond*
Joy Clyde Ross,	C. E	*Imlay City, Mich.*
Percival Creighton Sinclair,	C. E.	*Johnson*

JUNIOR CLASS.

Clarence Raymond Andrew,	C. E	*Winthrop Center, Me.*
Sidney Wallace Bampton,	C E	*Boston, Mass.*
Ludlow Osmond Barker, Jr.,	C. E.	*Montpelier*
Daniel Rogers Barney,	C. E	*Springfield*
Hugh James Betterley,	C. E	*Brattleboro*
Clarence Myron Burnett,	C. E	*Northampton, Mass.*
Arthur Emory Burr,	C. E	*Bellows Falls*
José Maria Carbonell,	C. E	*Havana, Cuba*
William Edward Carleton,	C. E	*Cumberland Mills, Me.*
William Safford Clarke,	Ch	*Milford, Mass*
Harry Freeman Doe,	Ch	*South Newbury*
Danna Howes Gilman,	C. E	*Brattleboro*
Charles Ralph Hartwell,	C. E	*Montpelier*
Bradford Pierce Hovey,	Ch	*Northfield*
William Clayton Newell, Jr.,	C. E	*Doylestown, Pa.*
Martin Leroy Rumrill,	C. E.	*Randolph*
James Baldwin Swett,	C. E	*Southern Pines, N. C.*
Clarence Arthur Tenney,	C. E	*Brattleboro*
Frank Nelson Tinker,	C. E	*Danville*

SOPHOMORE CLASS.

Roy Morse Batchelder,	C. E	*Waterbury*
Roy Melville Blanchard,	C. E	*Cumberland Mills, Me.*

William Pierce Brown,	C. E.	*Northfield*
Guy Walter Cobb,	C. E.	*Springfield*
Eugene Joseph Cray,	Ch.	*Bellows Falls*
Leroy Howland Davis,	C. E.	*So. Royalton*
Oliver Newell Eastman,	C. E.	*Woodsville, N. H.*
Clarence Eugene Ellsworth,	C. E.	*Wentworth, N. H.*
Joseph Allen Evarts,	C. E.	*St. Albans*
Charles Dexter Frink,	C. E.	*Brookfield*
Noah Cornelius Frink,	C. E.	*Brookfield*
Fay Henry Cameron Graves,	C. E.	*Vergennes*
Oliver Taft Hazleton,	C. E.	*Northfield*
Timothy Joseph Holland,	C. E.	*Gouldsville*
David Leroy Hoyt,	C. E.	*Northfield*
Edwin Dana Huntley,	C. E.	*Burlington*
Charles Leonard Keating,	C. E.	*Ludlow*
Leroy Eugene Knight,	C. E.	*Bellows Falls*
Howard Blakeslee Leighton,	C. E.	*New Haven, Conn.*
Oliver Yeaton Leonard,	C. E.	*Northfield*
Grosvenor Roy Lindsey,	C. E.	*Island Pond*
Arthur James McKay,	C. E.	*Northampton, Mass.*
John Herbert Mears,	C. E.	*Enosburg Falls*
George Miles Moore,	C. E.	*Orange, Mass.*
Frank Flint Morganson,	C. E.	*Proctor*
Marshall Joseph Noyes,	C. E.	*Brattleboro*
Leslie James Oram,	Ch.	*Brandon*
Alden Merriam Parker,	C.	*Winchendon, Mass.*
Roland Daniel Potter,	Ch.	*West Boylston, Mass.*
Harry Chadwick Pratt,	C. E.	*Montpelier*
William Trowbridge Randall,	C. E.	*Proctor*
William Maurice Ryan,	C. E.	*Gouldsville*
William Howard Sharp,	C. E.	*Northfield*
Burton Monroe Shepard,	C. E.	*So. Royalton*
Philip Vincent Sherman,	C. E.	*Burlington*
M. Siérra,	C. E.	*Santiago, Cuba*
Robert Moxley Squires,	C. E.	*Canton, N. Y.*
Thorpe Ridley Thomas,	C. E.	*Bristol*
Robert Pettigrew Watson,	C. E.	*Lyndonville*
Charles Albert Woods,	C. E.	*W. Danville*

FRESHMAN CLASS.

L. E. C. Amidon,	C. E.....*Millers Falls, Mass.*
Karl F. Baldwin,	C. E.....*E. Liberty, Ohio.*
Charles N. Barber, Jr.,	C. E.....*Barre, Vt.*
Irwin R. Bickford,	C. E.....*Dorchester, Mass.*
Fred. V. Bourdon,	C. E.....*Woodstock, Vt.*
Wm. J. Brannan,	C. E.....*Winthrop, Mass.*
T. W. Brown,	C. E....*East Hampton, Conn.*
Wm. G. Burroughs,	C. E.....*Oberlin, Ohio.*
Irving Chase,	C. E.....*Malden, Mass.*
Leonard J. Clarkson,	C. E.....*Portland, Conn.*
Clarence E. Day,	C. E.....*Baldwinville, Mass.*
Irving B. Edwards,	Ch.....*Roxbury, Mass.*
Ralph A. Eaton,	Arts.....*Gouldsville, Vt.*
Willis P. Fraser,	C. E.....*Waltham, Mass.*
Ernest L. R. Hall,	C. E.....*Medford, Mass.*
Charles E. Hartshorn,	C. E.....*Walpole, Mass.*
Arthur R. Hutchins,	C. E.....*Evanston, Ill.*
Adin H. Jillson,	C. E.....*W. Brattleboro, Vt.*
William L. Kathan,	C. E.....*Northfield, Vt.*
Frank H. Keese,	C. E.....*Middlebury, Vt.*
Charles R. King,	C. E.....*So. Newbury, Vt.*
Edward A. Lockwood,	C. E.....*Ludlow, Vt.*
Oscar P. Lyons,	C. E.....*Wells River, Vt.*
Francis J. McCarthy,	C. E.....*Gouldsville, Vt.*
Geo. F. Mitchell,	C. E.....*Medfield, Mass.*
Hollis L. R. Müller,	C. E.....*Burlington, Vt.*
Harry A. Nims,	C. E.....*Keene, N. H.*
Robert North,	C. E.....*Pittsfield, Mass.*
William L. Norton,	C. E.....*Baltimore, Md.*
John E. O'Donnell,	C. E.....*Northampton, Mass.*
Eugene F. Parker,	C. E.....*Northfield, Vt.*
Sylvester M. Parker,	C. E.....*Malden, Mass.*
Abbott S. Pond,	Ch.....*Rutland, Vt.*
Harold A. Ransom,	C. E.....*Castleton, Vt.*
Raymond V. Root,	C. E.....*Cromwell, Conn.*
Arvid H. Sjovall,	C. E.....*Cromwell, Conn.*
Edwin W. Smallman,	C. E.....*Malden, Mass.*

Dwight F. Smith,	C. E. ..... *Stowe, Vt.*
Donald U. Smith,	C. E. ..... *Ashley Falls, Mass.*
Henry J. M. Smith,	C. E. ..... *Middletown, Conn.*
Fred. S. Stow,	C. E. .... ..*Middletown, Conn.*
Leroy G. Wheelock,	C. E. ..... *Barnard, Vt.*
Lyman N. Wheelock,	C. E. ..... *Montpelier, Vt.*
Ernest C. White,	C. E. ..... *Manchester, N. H.*
Geo. W. Whitehill,	C. E. ..... *Groton, Vt.*
Myles Standish Wilder,	C. E. ..... *So. Woodstock, Vt.*
Guy H. Williams,	C. E. ..... *Manchester, N. H.*

SPECIAL STUDENTS.

Frank M. Barney,	..... *Springfield, Vt.*
Ramon R. T. C. Carbonelle,	..... *Habana, Cuba*
John E. Donahue,	..... *Berlin, Vt.*
Fred. Norcross,	..... *Dorset, Vt.*
Walter H. Phelps,	..... *Outwine, Okla.*

SUMMARY.

Seniors	9
Juniors	19
Sophomores	40
Freshmen	47
Special	5

ROSTER

OF THE

UATES AND PAST CADETS

OF

NORWICH UNIVERSITY

: MILITARY COLLEGE OF THE STATE OF VERMONT

1819-1905

NOTE.—In presenting this "Roster" of the Alumni and Past Cadets of Norwich University, no effort has been made at this time for completeness. A few of the most important positions are given. The last position mentioned is the one held at the present time or at the death of the Alumnus or Past Cadet.

A large portion of the data used in this Roster was taken from the "History of Norwich University 1819-98," compiled by W. A. Ellis of the class of 1897. The Roster of the Past Cadets contains the names of those in attendance two or more years. It is earnestly requested that our Alumni and friends will carefully look through the Roster and inform Mr. Ellis of any change or addition.

An effort is being made to complete the record of our Alumni and Past Cadets and any information will be gladly received.

The star (*) before a name indicates the death of the person; the dagger (†), that no information has been received concerning the person; a degree enclosed in a parenthesis as (A. M.) indicates that it was given by an institution other than Norwich University. The graduates of the American, Literary, Scientific and Military Academy, as far as known, are arranged in alphabetical order.

The years following the name of the Past Cadet indicate the attendance at the University.

The following are the principal abbreviations and their explanations:

A. C.—army corps.
b.—born.
bvt.—brevet or brevetted.
brig. gen.—brigadier general.
civ. eng.—civil engineer.
const.—construction.
cons. eng.—consulting engineer.
const. eng.—engineer in charge of construction.
ch. eng.—chief engineer.
div. eng.—division engineer.
lt.—lieutenant.
maj. gen.—major general.
mem.—member.
m. Am. Soc. C. E.—member American Society of Civil Engineers.

ROSTER.

CADETS 1819–34.

A

***James Hopkins Adams, 1827-29.**

b. ——, So. Carolina; lawyer; Gov. So. Carolina 1855-57; d. 1861.

***Joseph Dana Allen, A.M., 1825.**

b. ——, Burlington, N.Y., ch. eng., Conn. River Navigation Co.; div. eng. Blackstone Canal; Cumberland and Oxford Canal; ch. eng., Utica & Oswego R. R.; Erie R. R.; Erie Canal; consulting eng. Chicago and No. Western R. R.; Albany and Northern R. R.; d. Burlington, Vt.

***Joel Amsden, 1834.**

b. ——, Hartland, Vt.; eng. on N. Y., L. E. & W. R. R.; res. eng. on N. Y. state canals 1838-46; architect Boston, Easton, Pa., eng. for Lackawanna Iron & Coal Co., Scranton, Pa., 1850; res. and chief eng. Del., Lackawanna & Western R. R.; C. E. Scranton, 1857-1868; maj. N. Y. state militia; d 1868, Scranton, Pa.

***Charles Amory, 1824.**

Merchant, Boston, Mass.

†George P. Astor, 1825-27.

b. ——, e. f. New York city.

B

***Jacob Babbitt, 1826.**

Merchant; maj. 7th R. I. Inft. civil war; Bristol, R. I.

***Jonathan Baker, 1826.**

Merchant, Charleston, N. H.

***Portus Baxter, A. M., 1824.**

Merchant; mem. Congress 1860-66; Derby, Vt.

***Carlos Baxter, A. M., 1826.**

Lawyer and manufacturer, Burlington, Vt.

***William Augustus Beach, 1828.**

b ——, Saratoga Springs, N.Y., lawyer in charge of many noted cases as Beecher-Tilton; "five million dollar" Fisk & Gould litigations, New York, N. Y.; d. Saratoga Springs, N. Y., 1884.

†*Daniel Havens Bingham, 1822.

Civ. eng. state of Ark., editor Athens, Ala.

***Charles Stewart Boggs, 1828.**

Rear admiral U. S. N., New Brunswick, N. J.

***William Brenton Boggs, 1827.**

Pay director, U. S. N., New Brunswick, N. J.

***James Vote Bomford, 1828.**

Col. and brev. brig. general U. S. A.; Elizabeth, N. J.

***Joseph Bartlett Bourleigh, A. M., LL. D., 1833.**

Founded Newton College, Baltimore; educator and author; Baltimore, Md.

***Thomas Bragg, 1828.**

Lawyer; gov. N. C. 1854-1856; U. S. senator, 1858-61; att. gen. C. S. A. Raleigh, N. C.

†*William G. Brooks, 1823.

Author, Boston, Mass.

***Orestes Augustus Brownson, LL. D.**

Clergyman; editor "BROWNSON'S QUARTERLY REVIEW, New York

C

***Albermarle Cady, 1825.**

Col. and brig. gen. U. S. A.; Concord, N. H.

***Paul Carrington Cameron, 1827.**

Financier, Stagville, N. C.

***William Simpson Campbell, 1826.**

Asst. eng. Erie canal; city eng. New Orleans; consulting eng. New Orleans & Jackson R. R., New Orleans, La.

***Edward William Carpenter, 1823.**

Commodore. U. S. N.; Shrewsbury, N. J.

***Asa W. H. Clapp, 1824.**

Mem. Con. 1841; financier; Portland, Maine.

***Zera Colburn, A. M., 1834.**

Noted mathematician; prof. of lan. N. U. 1835-39; Norwich, Vt.

***George Musalas Colvocoresses, A. M., 1831.**

b. Island of Scia, Grecian Archipelago; midshipman U. S. N. 1832; held many important commands U. S. N.; capt. U. S. N. 1867; author; son George P. class 1867 "N. U.;" capt. U. S. N.; d. Litchfield, Conn. 1872.

***Randolph Coyle, 1828.**
Asst. eng. Ches. & Ohio canal; U. S. eng. 1840-1841; city surveyor Wash. D. C.; eng. in charge of cons. of bridge across the Potomac at Little Falls, Warrenton, Va.

†*Thomas Tingey Craven, 1824.
Rear adml. U. S. N.; Portsmouth, N. H.

***Henry Wyles Cushman, A. M., 1825.**
Educator; lt.-gov. Mass. 1851-1852; Bernardstown, Mass.

D

†*John W. Dicks, 1823.
Master, U. S. N.; civil war.

***Ralph Smith Dorr, 1824.**
Merchant, Buenos Ayres, S. A.; San Francisco, Cal.

F

†*Ebenezer Farrand, 1826.
Commander U. S. N.; commodore, C. S. N.; Charleston, S. C.

***Ryland Fletcher, 1824.**
Politician; gov. Vt., 1856-1858; brig. gen. V. N. G.; Cavendish, Vt.

†*Thomas W. Freelon, 1823.
Commander U. S. N.

***John Fries Frazer, LL. D.**
Vice-provost Univ. of Pa.; author and editor; Phila., Pa.

G

†*Samuel K. George, A. M., 1834.
Merchant, Baltimore, Md.

***William Bradford Gilbert, 1828.**
b. ——, Rome, N. Y.; asst. eng. Mohawk & Hudson; Saratoga & Schenectady; New York & Harlem; Havana & Renan, Cuba; ch. eng. Buffalo & Aurora, Buffalo, 1836-37; ch. eng. Erie & Kalamazoo, Ill. Cent.; div. eng. Ogdensburg & Lake Champlain through Adirondack wilderness; ch. eng. Champlain & Conn. River; Burlington & Rutland; Missisquoi Valley, Vt.; Western Vt.; Syracuse & Binghampton; Watertown and Madison, (Wis.); Milwaukee & Watertown; New York Central; N. Y. Oswego & Midland; cons. eng.; d. Palmyra, N. Y., 1867.

†*James Glynn, 1823.
Commodore U. S. N.

H

***Robert Hallowell Guardiner, 1826.**
Civil eng.; Savannah, Ga.

***Reuben Charles Hale, 1827.**
Lawyer; Q. M. Gen. Pa. 1861-63; Philipsburg, Pa.

William S. Harris, 1823.
Commander U. S. N.

†*Henry J. Hartstene, 1828.
Commander U. S. N.; arctic explorer; capt. C. S. N.; Savannah Ga.

***Guildford H. Hathaway, A. M., 1824.**
Banker, Fall River, Mass.

†*Augustus Allen Hayes, M. D., 1823.
State assayor, Mass.; author; Brookline, Mass.

***Michael Hoke, 1829.**
Lawyer, Lincolnton, N. C.

***John Calvin Holbrook, D. D., LL. D., 1824.**
Con'gl. clergyman; editor and author; Stockton, Cal.

***John Holbrook, 1825.**
Instruct. N. U.; Pres. Jefferson Coll., Miss.

***Arthur Fisher Holmes, 1826.**
Planter, Fla.; maj. Seminole war; custom house officer under the U. S. & C. S. governments; Aiken, S. C.

James T. Homans, 1823.
Lt. U. S. N.

***Valentine B. Horton, 1825.**
Prof. math. and tactics, 1825-30; lawyer; manufacturer; mem. of Cong. 1854, 1856, 1860.

***Henry Griswold Hubbard, 1830.**
Manufacturer, Middletown, Conn.

I

***Sanders Irving, 1829.**
Civil eng., Wash., D. C.

***Augustine de Iturbide, 1828.**
Son of gen. Augustine de Iturbide, Emperor of Mexico; officer in the Mexican and Spanish armies; Wash., D. C.

J

***Edwin Ferry Johnson, A. M., C. E., 1825.**
b. ——, Essex, Vt.; prof. mathematics and civ. eng. " N. U.,"; res. eng. Canojoharie & Catskill; Utica and Schenectady; ch. eng. Auburn & Syracuse; New York & Erie; Ogdensburg and Lake Champlain; div. eng. New York & Albany; cons. eng. Springfield & Hartford; ch. eng. New York & Albany; Whitehall R. R.; New York & Boston Air Line; Oswego & Syracuse; New York & Boston; Middletown & Berlin, for Hartford & New Haven; cons. eng. Rutland & Burlington; Vt. & Canada; St. Lawrence & Champlain canal; ch. eng. Rock River Valley Union, Wis.; Ill. & Wisc.; 1854-66 wrote many articles urging the building of the Northern Pacific R. R.; cons. eng. Lake Ontario Shore Line; ch. eng. Northern Pacific 1866-70; cons. eng. Northern Pacific 1870—until his death in 1872, wrote extensively on engineering subjects.

K

***John Pringle Jones, LL. D., 1828.**
Lawyer; judge district court; author Phila., Pa.

***Jefferson Parish Kidder, A. M , 1828.**
b. ——, Braintree, Vt.; lawyer; mem. Vt. senate; lt. gov. Vt. 1852–54; assoc. jus. U. S. courts for Dakota Ter.; delegate to congress 1876-80; St. Paul.

***Edward A. Kimball, 1844.**
Editor; capt. and brev. maj. 9th U. S. Inft., Mex. war; lt. col. "Hawkins' Zouves," 9th N. Y. Vols.; New York.

L

***William Raymond Lee, A. M., 825.**
Eng. and supt. Boston & Providence R. R.; col. 20th Mass. Regt. and bvt. brig. gen. U. S. V. civil war; Jamaica Plain, Mass.

+*Roswell Walter Lee, 1828.
Lt. U. S. A.; served in Seminole war; lt. in the army of the Republic of Texas 1839-41; county eng., Fanning Co., Texas; col. Texas militia; C. S. A.

***William Enos Lewis, 1832.**
Surveyor; brig. gen. Vt. militia; Norwich, Vt.

***George Little, 1831.**
Lawyer and planter; col. C. S. A., Raleigh, N. C.

***Henry Adolphus Loudon, 1830.**
Banker; Wilmington, N. C.

***George Lyman, 1823.**
Merchant; Hartford, Vt.

M

***Luther Rawson Marsh, 1829.**
b. ——, Pompey Hill, N. Y.; lawyer and author; d. 1902 at Middletown, N. Y.

***+James McKay, 1827.**
Educator; Buffalo, N. Y.

***John McNabb, 1832.**
Capt. 9th U. S. Inft. Mex. war; C. S. A.; New Orleans.

+John W. Moores, 1823.
Lt. U. S. N.

***Junius Spencer Morgan, 1829.**
W. Springfield, Mass.; merchant; partner George Peabody & Co., London; pres. firm J. S. Morgan & Co., bankers, London, Eng., 1862-90; mem. gov. Footguards, Hartford, Conn., 1838-41; d. Monte Carlo in 1890; London, England.

***Isaac Edward Morse, 1828.**
Lawyer; mem. Cong. 1844-51, att. gen. La. 1851; U. S. min. Columbia, 1856; New Iberia, La.

N

***William Henry Noble, (A. M.) 1829.**
Lawyer; col. 17th Conn. Vols. and bvt. brig. gen. civil war; E. Bridgeport, Conn.

***Ralph L. North, 1828.**
Lawyer; author; Natchez, Miss.

O

***Thomas R. Owen, 1828.**

P

†*William P. Parrott, (Parrowt), 1827.
Lawyer; politician; Wilmington, N. C. Entered from Mass; civil eng.

***Frederick W. Partridge, 1832.**
b. ——, Norwich, Vt.; lawyer; served in the Mexican war; col. 13th Ill. Regt. Vols. and brev. brig. gen.; U. S. consul gen. Bangkok, Siam, 1869-77; Sycamore, Ill.

***Hiram Paulding, 1823.**
Rear admi. U. S. N.; Lloyds Harbor, L. I.

***Hamilton Elliott Perkins, 1824.**
Lawyer; manufacturer; judge of probate, 1855-74; Concord, N. H.

***Edward Elisha Phelps, M. D., LL. D., 1822.**
Prof. anatomy and surg. U. V. M. 1835-38; prof. materia medica and therapeutics, 1841-71; prof. emeritus 1871-80; surg. U. S. V. civil war, brev. lt. col.; Windsor Vt.

***Philip Phillips, A. M., 1826.**
Lawyer; mem. Cong. Ala. 1853-55; author; Washington, D. C.

R

***Henry J. (S.) Ranny, A. M., 1828.**
Asst. eng. Balt. & Ohio R. R.; ch. eng. New Orleans, Jackson & Great Northern 1860-65; Mandeville, La.

***Truman Bishop Ransom, A. M., 1825.**
b. ——, Woodstock, Vt.; asst. prof. math. N. U. 1825-27; pres. 1843-47; maj. gen. Vt. militia, 1836-44; col. 9th U. S. Inft Mex. war; killed at battle of Chepultepec; Norwich, Vt.

***Moncure Robinson, A. M., LL. D., 1824.**

b. ——, Richmond, Va.; cons. eng. with George Stephenson, Liverpool and Manchester Ry., England; ch. eng. Pottsville & Danville R. R. in Pa., the *first steam* railroad in the United States; Alleghany Portage; Petersburg & Roanoke; Richmond & Petersburg; built long bridge at Richmond over the James river, remarkable for its construction and low cost; Richmond & Fredericksburg; Winchester & Potomac; Phila. & Reading, 1834-1842; constructed bridge at Black Rock Tunnel for Reading Road; this was the *first* large stone structure built for a double track railroad, and remarkable for its construction; offered by Czar of Russia position of ch. eng. in charge of railways and inland improvements of Empire; author; mechanical eng.; d. Phila., 1891.

***John Dennison Russ, M. D., 1824.**

Physician; supt. of hospital service for the Grecian Patriots 1827-30; Pompton, N. J.

William Huntington Russell, M. D., A. M., 1828.

Educator; pres. Collegiate and Commercial Inst., New Haven, Conn.; maj. gen. Conn. militia 1862-65; New Haven, Conn.

S

***William R. Sanford, 1826.**

Stockman; Orwell, Vt.

***Theodore Sedgwick, 1826.**

Lawyer; Stockbridge, Mass.

***Augustus Futzwhylsson(Fenton)Seaton, 1828.**

Editor; Wash., D. C.

***Horatio Seymour, A. M., LL. D., 1828.**

Lawyer; gov. N. Y. 1852, 1862-64; pres. nominee Democratic party, 1868; Utica, N. Y.

***Horatio Seymour, 1829.**

Mayor Buffalo; Buffalo, N. Y.

***Thomas Henry Seymour, A. M., LL. D., 1829.**

Lawyer; editor; mem. Cong. from Conn. 1843; gov. Conn. 1850-53; U. S. min. Russia 1853-57; maj. 9th U. S. Inft. Mex. war; Hartford, Conn.

Bernard Shipp, A. M., 1827.

Historian; Louisville, Ky.

***Seneca Galusha Simmons, 1828.**

Maj. U. S. A.; col. 5th Pa. Reserves and brev. brig. gen. civil war; Harrisburg, Pa.

Isaac Townsend Smith, A. M., 1830.

Merchant; financier; consul gen. to the U. S. for Siam; oldest serving cadet; New York, N. Y.

***Edward Stanley, 1829.**

Lawyer; att. gen. N. C. 1847; mem. Cong. 1837-43, 1849-58; Mil. gov. of Eastern N. C. during civil war; San Francisco, Cal.

***Elihu William M. Starr, 1829.**

Manufacturer; adj. gen. Conn. 1859-63; Middletown Conn.

***†Josiah Tattnall, 1823.**

Capt. U. N. S.; commodore C. S. N. civil war; Savannah, Ga.

T

†George W. Taylor, 1826.

Midshipman U. S. N.; 1827-31; capt. U. S. A. Mex. war; col. 2nd N. J. Vols. civil war, brig. gen.; High Bridgh, N.J.

***Robert H. Temple, 1825.**

Q. m. gen. N. Y. 1859-60; Albany, N. Y.

†*Ebenezer Thompson.

Pomfret, Conn.

***Charles Stockbridge Thompson, 1827.**

Pomfret, Conn.

***George Muirson Totten, 1827,**

b. ——, New Haven, Conn.; asst. eng. Farmington canal, 1827; Juniata canal, Pa.; Del. & Raritan in N. J.; R. R. Reading to Port Clintoss, 1839; ch. eng. canal del Dique, Columbia, S. A.; ch. eng. Panama R. R. 1850-1875; eng. with M. Ferdinand de Lesseps on Panama canal; ch. eng. of railroad in Venezuella; d. New York city in 1884.

V

***James Van Ness, 1825.**

Lawyer; San Francisco, Cal.

***Henry Van Rensellaer, 1827,**

Lt. U. S. A.; mem. Cong. from N. Y. 1841-43; col. and inspec. gen. civil war; Albany, N. Y.

W

***Thomas Beale Wales, 1825.**

Merchant; Boston, Mass.

***Thomas Blackburn Washington, 1827.**

Planter; Jefferson Co., Va.

***James Harman Ward, 1823.**

Capt. U. S. N.; prof. at Annapolis; author; Hartford, Conn.

***Sumner Allan Webber, 1824.**

Lawyer and merchant; Rochester, Vt.

***Gideon Welles, A. M., 1826.**

b. Glastonbury, Conn.; editor and author; held many state offices; sec. navy 1861-69; New York, N. Y.

***Henry Walton Wessels, 1828.**

Col. and brev. brig. gen. U. S. A.

†*Asa Wheeler, Jr., 1828.

Cavendish, Vt.

†*Hiram P. Woodworth, 1825.
Ch. eng. Ill. Imp. Commis 1838-?; Peru or Chicago, Ill.

*John James De Wolf, M. D.
Physician; Providence, R. I.

*David Minton Wright, M. D., 1829.
Physician; Norfolk, Va.

†*William O. Wright, 1832.
Educator; Mass. or N. H.

*Franklin Wright, 1832.
b. Charlestown, N. H.; asst. eng. Del. & Rankin canal; ch. eng. Southside R. R.; Alleghany Valley; Steubenville; Bennett's Branch Div., Pa. R. R.; iron mfr.; d. "Battersea Place" Petersburg, Va., 1886.

CADETS 1834-1904.

1836.

*Alonzo Flagg Estabrook, (certificate.)
b. Reading, Vt.; asst. eng. N. Y. Cent. R. R. 1836; asst. & div. eng. on Wabash & Erie canal; Hocking canal; Muskingum River Improv. Commis. 1838-40; eng. Indianapolis & Vincennes R. R. 1847; Indianapolis & Bellefontaine 1848; eng. Del. Co., Ind. 1849-52; eng. Evansville & Crawford R. R. 1853-54; Bedford, Bloomfield, Switz City, and Effingham (Ill.) Narrow Gauge R. R. 1875; asst. eng. Rocksville & Indianapolis; d. 1892 at Lavaca, Neb.

*Amasa Gleason, A. M.
Educator; Gloucester, Mass.

†Joseph Wood Horr, M. C. E.
Civil engineer on railroads in the South.

*Alonzo Jackman, A. M. LL. D.
b. Thetford, Vt.; adj. gen. of Vt. during the Civil War and prof. Mathematics at N. U. 1837-79; Northfield, Vt.

1837.

*Joseph W. Curtis, A. B.
Lt. U. S. Navy; Warren, Vt.

*Cyrus Hyde Fay, LL. D.
b. ——, Lebanon, N. H.; Univ. clerg., Hartford, Conn.; Roxbury, Mass.; Nashua, N. H.; Middleton, Conn.; Brooklyn, N. Y.; author; d. Brooklyn, 1903, Brooklyn, N. Y.

*Robert Frazier, A. B., M. C. E.
Civ. eng. and pres. Wilmington and Reading R. R.; Philadelphia, Pa.

*Horatio Gates Gilbert, A. B.
b. ——, Watertown, N. Y.; bank cashier. Albany, N. Y.; d. New York, N. Y., 1891

*George Washington Gilson, A. M.
Civil engineer, Chicago.

†Samuel B. Grice, M. C. E.
Civil engineer; Phila., Penn.

Eugene Eckel McLean, A. B.
Col. C. S. A.; financial engineer; New York City.

†Winfield Scott Sherwood, A. M.
Civil engineer; politician; California.

*Joseph Herman Streeter, A, B.
Physician; Roxbury, Mass.

*Sebastian Russell Streeter, A. B.
Capt. 61st Mass. Vols.; lawyer; Wood stock, Vt.

*Josiah Sweet, Jr., A. M., D. D,
b. ——, Claremont, N. H.; prof. Ancient languages 1840-41; 1843-15; author; P. E. clergyman; d. Highgate, Vt., in 1890.

†Joseph G—Tilden, M. D.
Physician; Vt. (?)

*Thomas Jefferson Whipple, A. B,
b. ——, Wentworth, N. H.; lt.-col. 1st N. H.; col. 4th N. H. Vols.; lawyer; d. Laconia, N. H., 1889.

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*Horace Parkhurst Allen, 1833-36.
b. ——, Eastford, Maine; cadet U. S. M. A. 1836-37, resigning owing to sickness; cashier Royalton Vt., bank; held many town offices; Royalton, Vt.

*Henry S. Burton, 1832-35.
b. ——, Norwich, Vt., graduated U. S. Mil. Aca. 1839; lt.-col. N. Y. Vols. Mexican war; col. U. S. Art. '61, and bvt. brig. gen. U. S. A.; d. April 4, 1869.

*Daniel Bryant Bliss Cobb, 1834-35.
U. S. revenue service; cashier and director Peoples' Bank, Derby Line, Vt.; Derby Line, Vt.

*†James Bradly Smith, 1833-36.
Asst. eng. Utica & Schenectady R. R. 1837; Memphis & Rio Grande (in Tenn.); eng. Bolivia Co., Miss., many years; planter; d. at ——, Tenn., 1893.

*Timothy Dwight Smith, 1834-37.
Col. N. H. militia; merchant, St. Paul, Minn.

1838.

Jay Dyer, A. B.
b. Clarendon, Vt.; capt. Co. I, 32d Ohio Vols.; asst. eng. Ill. Cent. R. R., 1839; asst. eng. Ill. Internal Imp. Commis.; surveyor, Del. Co., Ohio; asst. eng. Cleveland, Akron & Columbus; address Galena, Ohio.

*Charles Denison Lewis, M. C. E., M. D.
Physician; Dry Ridge, Ky.

†*Jehiel Lillie, A. B.
Lawyer, Selma, Ala.

†John C—Murray, A. B.
Civil eng.; Middleburg or Middlebury Va.

***Johnson Shedd, A. B.**
Supt. Military School; Portsmouth, Va.

†Charles Slack, Π. C. E.
Civ. eng. on Ill. river survey 1838-40. Cal. 1849—?

***Collins Wright, A. B.**
Lawyer; Dayton, Ohio.

***Edward Allen, 1836-38.**
Ranchman and sheep owner in Australia where is said to have died in 1860.

†Charles Ball, 1835-37.
e. f. Sandy Hill, N. Y., eng. on many railroads.

***George Henry Bissell, 1836-38.**
b. ——, Hanover, N. H.; A. B. Dart. Coll. 1845; prof. N. U., 1844-45; prin. and supt. schools New Orleans, La.; oil mfgr.; lawyer, located N. Y. City, where he died 1884.

George H — Clark.
e. f. Sandy Hill, N. Y., asst. eng. on Croton Water Works, N. Y.

Simon Chase Dow.
b. ——, Strafford, Vt.; settled in Ill., taught school and held many public offices in Ill., Wis. and Minn.; address, Walcott Rice Co., Minn.

Solomon Franklin Frary, 1835-37.
b. Strafford, Vt.; merchant, So. Strafford, Vt.; has held many public offices; address, So. Strafford, Vt.

***John Harvey Moore, 1835-37.**
b. Strafford, Vt.; Univ. clerg., Wakefield, Mass.; Concord, N. H.; Stamford, Conn.; Newark, N. J.; Warren, Mass.; d. Warren, Mass., 1901.

***Lewis S. —(?) Partridge, 1833-36.**
b. Norwich, Vt.; adj. gen. Vt. 1852-54; held many public offices; merchant, Norwich, Vt., where he died 1889.

†Benjamin Poole, 1835-37.
b. 1818; e. f. Gloucester, Mass., said to have been a civil engineer.

***George Barker Sherill, 1835-38.**
b. Sandy Hill, N. Y.; held many state offices; supt. Salem & Champlain canal for many years; d. Sandy Hill, N. Y.

1839.

†George Bradley Adams, A. B.
Teacher; Bowling Green, Ky.

Cyrus Barrett Burnham, Π. C. E.
b. ——, Strafford, Vt.; banker and real estate; St. Louis, Mo.

***Friend Perry Fletcher, A. B.**
b. ——, Bridgeport, Vt.; merchant and iron mfgr.; Bridgeport, Vt.; d. 1875.

***James Ashton Hall, A. B.**
Lawyer; Reading, Vt.

†Sumner Africus Howard, A. B.
Universalist clergyman; N. H. and Mass.

†Walter B— Hurlbut, A. B.
Pawlet, Vt.

***(Joshua) Thompson Lincoln, A. B.**
Physician; Cornish, Maine.

***William Livingston, A. B.**
b. ——, Unity, N. H., prof. nat'l science. Lombard Univ., Galesbury, Ill., where he died 1879.

***Caleb Lyon, LL. D.**
b.——, Lyonsdale, N. Y.; sec. convention called to frame constitution for Calif.; U. S. consul, Shanghai, China, 1847; member Congress 1853-55; gov. Idaho 1864-66; said to have served in civil war; d. Rossville Staten Island, N. Y.

***Samuel Marsh, A. B., (Π. D.)**
b. ——, Hartland; lt.-col. 16th N. Y. Vols.; prof. mathematics, St. Lawrence Academy, Potsdam, N. Y.; died of wounds received in battle before Richmond, 1862.

***Asy Crosby Marvin, A. B.**
b. ——, Alstead, N. H.; pres. U. S. Senate and acting gov. of State; col. 60th Regt. Mo. Nat'l Guard, 1860-62; pres. Tebo. and Nesho. R. R.; Sedalia, Mo.

***Samuel Nichols, Jr., M. C. E.**
Physician; Brattleboro, Vt.

***Jonathan Tarbell, A. B.**
b. ——, Moria, N. Y.; maj. 24th N. Y. Vols.; col. 91st; brig. gen. U. S. Vols.; chief justice Supreme Court of Miss.; d. Washington, D. C., 1888.

***Youngs Vail Wood, A. B.**
Lawyer; Dayton, Ohio.

***Chauncey Wright, Π. C. E.**
b. ——, Rome, N. Y.; merchant; d. Lexington, Miss., 1895.

***Henry Baxter (Π. D.), 1835-38.**
b. Norwich, Vt.; M. D., Castleton Med. Coll. 1841; phys. Highgate, Vt., 1842 until his death in 1897; held many state offices.

***Isaac Newton Cushman, (A. M.) 1836-38**
b. Woodstock, Vt.; left the University in 1836 to enter West Point, where he remained two years; surveyor 1842-43; lawyer; town representative; state senator; judge of probate; A. M. Univ. of Vt., 1852; d. Irasburg, Vt., 1881.

†John B— Davis.
b. Barnard, Vt.; said to have been an engineer.

***Mitchell Π- Davis, (M. D.) 1834-39.**
b. Sharon, Vt.; M. D. Vt. Med. Coll. 1840; physician; Portage, Wis. 1854-62; Appleton 1862-72; Baraboo 1872-88; was active in politics and held many public offices; Indian agent 1861-66; del. Nat. Repub. conventions 1854, 1860; Regent Univ. Wis. 1856-72; d. Baraboo, 1888.

***Gilman Folsom, 1836-39.**

b. ——; e. f. Dorchester, N. H.; distinguished lawyer; located in Wisconsin, later in Iowa City, Iowa, where he died in 1872; engaged in extensive business enterprises; held many public offices.

†Robert Henderson, 1837-38.

e. f. Leesburg, Va.; is said to have been an officer in the C. S. A.

***Josiah Marvin, 1838-39.**

b. Alstead, N. H.; Univ. clerg., Stoneham, Springfield and Fitchburg, Mass.; Springfield, Ill.; St. Paul, Minn.; chaplain, Minn. state senate several years grand master I. O. O. F., Minn. Grand Lodge. d. Alstead, N. H., 1887.

†Chilton Murray, 1837-38.

e. f. Middlebury or Middleburg, Va.; said to have entered C. S. A.?

†Charles H. Sargeant, 1836-38.

e. f. Ohio City, Ohio; civ. eng.?

†John H. Sargeant.

e. f. Cleveland, Ohio; civ. eng.?

***Lemuel Shattuck, 1834-38.**

e. f. Lebanon, N. H.; state senator 1890–92; d. Bridgewater, Vt.

1840.

†Edward Crowell, A. B.

Civil eng.; Perth Amboy, N. J.

†Thomas D--Fell, A. B.

C. S. A.?; Charleston, S. C.

Sylvester M— Hewitt, A. B., (M. D.)

b. ——, Pomfret, Vt.; capt. 26th Ohio Vols.; surg. 136 Ohio Vols.; physician; Cincinnati, Ohio.

***Lucius Huribut, A. B.**

b. ——, Vt.; inst. math. Fredonia (Iowa) academy, 1844-50; banker, Waterloo, 1863-77; in business Chicago 1877-96; held many public offices; d. Chicago, 1896.

Cyrus Gardner Myrick, (certificate).

b. ——, Middlebury, Vt.; e. 1837; received certificate of completing eng. work, drill master Canadian "Rebels" 1839; served in Mexican war; co. surveyor; Le Sueur, Minn., 1855-75; d. Le Sueur, 1904.

†Philander Palmer, A. B.

Entered from Langdon, N. H.; lawyer.

***Alvin Roundy, A. B.**

b. Goshen, N. H.; teacher; Unity, N. H.

†*Joseph W— Shedd, A. B.

Entered from Washington, N. H.

***Warren Shedd, (certificate).**

b. Stoddard, N. H.; prin. Rock Island (Ill.) H. S.; co. treas., Mercer co., Ill.; drilled state troops for civil war; capt., maj., lt. col. and col. 30th Ill. vols.; bvt. brig. gen. U. S. vols.; U. S. land agent; clerk U. S. courts; mining; G. A. R. posts at Aledo, Ill. and Hill City, N. D., are named in his honor; d. State Creek, S. D., 1881.

†Daniel Tuller, A. B.

Entered from Royalton, Vt.; lawyer, Washington, D. C.

***Simon Wheeler, A. B., (LL. B.)**

b. Newport, N. H.; LL. B. Univ. of Va.; teacher and lawyer; d. Demopolis, Ala., 1864.

***William Caldwell Belcher, (A. M.) 1837-39.**

b. Stockbridge, Mass.; prin. of schools; lawyer; endowed "Belcher Library," Gaysville, Vt.; d. Marysville, Calif., 1895..

***James Martin Gilson, 1836-39.**

b. Northfield, Vt.; lawyer; Vt., N. Y., Cal. and Ill.; Capt. Ill. Vols. Civil war; d. Brookfield, Mo., 1888.

†Wilson Glover, 1837-39.

e. f. Charleston, S. C.; said to have held high office in C. S. A.

†Robert B. Jenkins, 1837-39.

e. f. Charleston, S. C.; officer C. S. A.?

***Sumner Knight, 1836-39.**

b. Stoddard, N. H.; teacher and business man; d. Keene, N. H., 1902.

***Moses Lane, (C. E., A. M., Ph. D.) 1838-39.**

b. Northfield, Vt.; studied mathematics at N. U., where he laid the foundation for his great success as a water works eng.; entered the Univ. of Vt. in 1843 to pursue a classical education; graduated A. B. 1845; A. M. 1849; Ph. D. 1875; entered the civil engineering profession as a transit man on the Central Vermont R. R. in 1845; res. eng. Albany & Susquehanna R. R.; prin. asst. eng. Brooklyn water works 1856-62; ch. eng. 1862-69; Milwaukee water works and other important works. d. Milwaukee, Wis., 1885.

†John W. Lewis, 1837-38.

e. f. Charleston, S. C.; C. S. A.?

***Seth Williams, 1836-38.**

b. Augusta, Me.; left N. U. in 1838 to enter West Point; served in Mexican war; lt. and bvt. capt.; adj. at West Point 1850-53; brig. gen. and adj. gen. Army of the Potomac, civil war; bvt. maj. gen.; d. Boston, 1865.

1841.

***Alvan Earl Bovay, A. M.**

b. Adams, N. Y.; maj. 16th Wis. Vols.; lawyer, Ripon, Wis., 1847–1888; politician, noted as founder of the Republican party in 1854; held many state offices; Brooklyn, N. Y.

†Andrew Jackson Dorn, A. B.

e. f. Florida, N. Y.; founded in 1844 first military school in Mo.; 1st lt. Mo. Art., Mex. war; 2d lt. 3d Dragoons, U. S. A.; Indian agent; in command "Indian" regiment, C. S. A.; state treas. Tex.; d. Austin, Tex.

***Daniel H--Dustin, A. B.**
U. S. district attorney, St. Paul, Minn., where he died about 1860.

***Cogswell Eastman, A. B**
Merchant; Boston, Mass.

***Ephraim Flint, A. B.**
b. Baldwin, Me.; lawyer; held many state offices; sec. of State, Maine; d. Dover, Me., 1884.

†John Harris, A. B.
e. f. Yorkshire, Eng., or New York City.

***Augustine L. C. Major, A. B.**
b. Culpepper's Court House, Va.; private Mosby's Rangers, C. S. A.; farmer; Brandy Station, Va.

†Luke E—Miller, A. B., (M. D.)
Physician; —? Minnesota.

Henry Villiers Morris, M. C. E., A. B.
b. New Glasgow, Va.; cadet 1831-36; M. C. E. 1838; A. B. 1841; prof. top. draw. and field work, Univ. of Va., 1836-37; asst. eng. Ill. state system of "internal improvements" 1837-40; prof. at Capt. Partridge's school, Bristol, Pa., 1843-45; eng. on railroads in Md. and Ohio 1845-54; mfr. railroad supplies, Cincinnati 1855-61; eng. Chicago & No. West.; military instructor and drill master Wis. Vols. 1861-62; adjt. 20th Wis. Vols.; maj. Vet. Reserve Corps; asst. eng. Wabash R. R. 1874-98; d. St. Louis, Mo., 1898.

Benjamin Franklin Nalle, A. B., M. C. E.
Col. Virginia Militia, C. S. A.; farmer; Rapidan, Va.

***Henry Pierce, A. B.**
Georgetown, D. C.

***David Richardson, M. C. E.**
Teacher, Clinton, Ill.

***James Van Allen Shields, A. B.**
b. New York City; sergt. maj. Mo. Vols. Mexican war; adj. 3d Regt. Govt. employees; District Columbia; Civil war; Washington, D. C.; d. March 20, 1904.

Charles Alexander Silver, A. B.
b. Norwich, Vt.; merchant and capitalist, Brooklyn, N. Y.

†Justin Edwards Stevens, A. B., (M. D.)
Surg. 9th U. S. Regulars, Mexican war; Phys., Boston, Mass.

***Stephen N-- Warren, A. B.**
Farmer, Orwell, Vt.

***Thomas Williams White, A. B.**
b. Milledgeville, Ga.; mining and eng. col., 1849-54; 1st mayor San Jose; capt. Ga. Vols., C. S. A.; capt. C. S. A. Eng's. Milledgeville, Ga.

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†Eli B— Bean.
b. Brownfield, Me.; capt. and bvt. maj. Maine vols. Address, Brownfield, Me.

†Benjamin Buck, 1838-40.
e. f. Washington, D. C.

***Robert Bradford Eaton, 1838-40.**
b. Heniker, N. H.; col. N. H. militia; mem. firm Eaton, Hill & Chandler, wholesale dealers paints and dye stuffs, Boston, 1850-57; in 1853 founded Merrimac Chem. Co., Woburn, Mass.; supt. this co. 1863-70; vice-pres. Boston N. U. Alumni Asso. 1890-95.

†Nathaniel E— Goodrich, 1838-40.
e. f. Charleston, S. C.; C. S. A.?

Joseph Harris.
e. f. Wallingford, Vt., or Yorkshire, Eng.?

†Josiah D. Taylor, 1838-84.
e. f. Charleston, S. C.; C. S. A.

†John Winn.
e. f. Charlottesville, Va.; capt. Va. Vols.; C. S. A.?

1842.

†*Oel Alfred Buck, A. M., M. C. E.
Prof. math. and tactics, Capt. Alden Partridge's mil. school, Portsmouth, Va.

***Hiram Clark, A. B., M. C. E., (M. D.)**
b. Ackworth, N. H.; asst. eng. Boston & Northern; taught school in Ga.; Physician, Lawrence, Kan.; died there of cholera in 1855.

***Charles B— Crowingshield, M. C. E.**
Capt. Co. E., 1st Mass. Vols., Mex. war; civil eng.; Salem, Mass.

William Watts Hart Davis, M. M. S., A. M.
b. Southampton, Pa.; prof. Va. Mil., Sci., and Lit. Acad., Portsmouth, Va., 1842-44; capt. Mex. war; col. 104 Penn. Vols. bvt. brig. gen.; pres. Bucks Co. Hist. Soc.; attorney gen. and sec. of Territory, act. gov., New Mexico; author and editor, Doylestown, Pa.

†*George Washington Franklin Emerson, M. M. S., A. B.
Penn. Vols. civil war; lawyer, Harrisburg, Penn.

***†Joseph Washington Frizell, M. M. S.**
e. f. Vanceburg, Ky.; lieut. col. 11th Ohio Vols.; col. 94th Ohio Vols.; bvt. brig. gen.; civil eng., Vanceburg, Ky., and Greenville, Ohio.

***John Fuller Jennison., A. B., (M. D.)**
Physician; Keene, N. H.

***William Little Lee, A. M., M. C. E.**
b. Sandy Hill, N. Y.; framed constitution for the kingdom of Hawaii; framed civil and criminal codes; got the king to give one-third of the land to the common people; minister to the U. S.; ch. justice Sandwich Islands; d. Honolulu 1857.

†*Otis Mason Marsh, A. B., M. C. E.
b. Hartland, Vt., prominent civil eng. on railroads in Ohio, Ind., Ken., Texas and La.; d Lake Charles, La., 1892.

†*Benjamin Franklin Shepard, A.B.M.C.E.
Entered from Milton, N. H., and Boston, Mass.

†*Hiram M— Storrs, A. B., M. M. S.
Moriah, N. Y.

*Daniel Thompson, M. C. E.
b. Westbrook, Me., civ. eng. on western railways; planter; "Calumet Plantation," Patterson, La.; d. 1898.

*Joseph Cornwall Wright, A. B.
b. Rome, N. Y.; lawyer; merchant; mem. Chicago Board of Trade; lt. col. 72d Ill. Vols.; d. of a wound received in assault on Vicksburg.

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†Squire P. Coon.
e. f. Alexander, N. Y.; col. Wis. Vols.

*George H. Derby, 1839-42.
b. Mass.; left N. U. to enter West Point in 1842; grad. in 1846, ranking 7th in class of 59; gained distinction at N. U. as "John Phœnix," a name afterwards famous in Amer. lit.; capt. U. S. engineers; author of several humorous works; d. N. Y. City 1861.

*Henry Clay Longnecker, 1839-41.
b. Mechanicsburg, Penn.; lawyer; 1st lt. Penn. Vols. Mex. war; col. 9th Penn. Vols. and brigade commander; mem. Congress 1858-60; d. 1871.

Nathan Burnham Webster, (certificate).
b. Unity, N. H.; prin. Va. Lit., Sci., and Mil. Academy, widely known as the Va. Colleg. Inst., Portsmouth, Va., 1842-46; Lect. Richmond Coll. 1846-48; civil eng. Gosport navy yard 1848-59; founded a school in Ottawa, Can., and the Ottawa Nat. Hist. Soc.; founded Webster Inst., Norfolk, Va., 1867-85; d. Vineland, N. J., 1902.

*Henry H. Whitcomb, (M. D.) 1839-41.
b. Quechee, Vt.; M. D. Vt. Med. Coll. Phys. So. Royalton, Vt., where he died 1884.

1843.

*Lemuel Winslow Blanchard, A. B.
Prin. of schools in Vt. and N. H., Wilmington, Vt.

†Edward Bushell, A. B.
Utica, N. Y.

†Henry H— Cary, A. M.
b. Weathersfield, Vt.; physician; La Grange, Ga.

†Jabez Cushman Crocker, A. B.
b. Woodstock, Vt.; state "drill master" Ill. Vols.; capt. 55th Ill. Vols; lawyer; Lincoln, Neb.

*Henry Hancock, A. B.
b. Bath, N. H.; asst. U. S. surveyor Cal. lt. Mex. war; major 4th Cal. Vols.; civil eng. and lawyer, Los Angeles, Cal.

*Asa Howe, C. E., (M. D.)
b. Middletown, Mass.; M. D. Dart. Med. Coll.; div. eng. Cent. Vt. R. R. 1846-50; Saratoga & Whitehall; Passumpsic; Huntington & Broadtop; Chicago & Northwestern; Barre Ry.; Montpelier & Wells River; d. Northfield, Vt., 1894.

†*Stephen Barry Lee, A. B.
Maj. U. S. Vols.; Sandy Hill, N. Y.

*Robert Houston Milroy, A. B., M. M. S.
b. Washington co., Ind; capt. 1st. Ind. Vols. Mex war; col. 9th Ind. Vols.; maj. gen. U. S. Vols.; supt. Ind. affairs, Washington Ter. d. Olympia, Wash., 1890.

†*William Patterson Paul, A. B.
b. Hanover, N. H.; teacher and planter in Tenn.; capt. Tenn. Vols., C. S. A.; d. yellow fever, Memphis, Tenn.

*William Ripley Stone, A. B.
Windsor, Vt.

1844

*Edward Marcus Brown, A. M.
b. Hartland, Vt.; editor SPIRIT OF THE AGE. Woodstock, Vt., 1847-60; postmaster; del. nat'l dem. conven., 1860; ed. Vt. PATRIOT; adj. 5th Vt. vols.; lt-col 8th Vt.; ed., Gen. B. F. Butler's war paper, DELTA. New Orleans, 1862-63; ed. Vt. WATCHMAN, 1866-73; PRESS AND DAKOTIAN, Yankton, Dakota; U. S. deputy surveyor of public lands; d. St. Paul, Minn., 1903.

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*Henry O. Brigham, 1841-43.
b. Norwich, Vt.; "drummer" Mex. war; major and paymaster U. S. Vols.; d. Detroit, Mich., 1868.

†William Wallace Chandler, 1840-42.
b. Randolph, Vt., Jan. 7, 1821; teacher of writing; advertising agent for various concert troops, 1845-53; ch. clerk Cleveland, Pittsburg & Wheeling R. R.; gen'l freight agt. of this road, 1856-65; gen'l agt. "Star Union Line," through freight line at Chicago, Ill., 1865-93; address, Chicago, Ill.

*Thomas Clark, 1841-43.
b. Ackworth, N. H.; merchant Cleveland, O.; col. N. H. mil.; drill master 19th Ohio Vols.; and served three months in the field; lt. col. 29th Ohio Vols.; employ U. S. customs house, Boston; d. Cambridgeport, Mass., 1894.

†*James Cunningham, 1841-43.
e. f. Boston, Mass.; lt. col. Mass. Vols.; bvt. brig. gen. d. Cambridge, Mass.

William Cullen Danforth, 1842-43.
b. Barnard, Vt.; engaged in business in the west; stock breeder, Barnard, Vt.

*Truman Seymour, A. M., 1840-42.
b. Burlington, Vt.; left N. U. in 1842 to enter West Point; 1st lt. and bvt. capt. Mex. war; brig. gen. and bvt. maj. gen. U. S. Vols., civil war; A. M. Williams Coll., 1865; d. Florence, Italy, 1891.

1845

*John Mills Barnard, A. M.
b. Ackworth, N. H.; on staff 1st Texas Mounted Vols., Mexican war; civil eng.; Rochester, N. Y.

Nathan Bryant Cobb, A. M.

b. Strafford, Vt.; cadet 1843-45; A. M. in course 1873; has held many public offices. Address, So. Strafford, Vt.

***Charles Edmund Denison, A. M.**

b. Woodstock, Vt.; ch. draughtsman, Cent. Vt. R. R.; asst. eng. Conn. & Passumpsic; ch. eng. Marietta & Columbia R. R.; Peoria & Oquawka; Peoria & Burlington; Toledo, Peoria & Western; Tunica & Petersburg; city eng. Peoria, Ill.; capt 8th Ill. Vols.; capt. and bvt. maj. 18th Inf., U. S. A.; recd. mortal wound in battle of Shiloh. d. 1863, Peoria, Ill.

***Roswell Dow, A. M.**

b. Hanover, N. H.; prin. of schools; held many public offices; son Ray Storrs in class 1895; d. Sycamore, Ill., 1902.

Bernard G. Farrar, B. S.

b. St Louis, Mo.; extensive plantation and slave owner; freed slaves in '61; aide-de-camp on staff Maj. Gen. Nathaniel Lyon, and Maj. Gen. Halleck; col. 30th Mo. Vols.; col. 6th U. S. colored Inf.; brigade commander; brev. brig. gen. U. S. Vols.; U. S. Asst. Treasurer St Louis, Mo.

***Edmund Brush Kellogg, A. B., M. M. S. C. E.**

b. Chillicothe, Ohio; asst. eng. Northern R. R. in N. H.; div. eng. Cent. Vt. R. R.; surveyor Santa Cruz Co., Cal.; ch. eng. Peoria & Burlington R. R.; d. Knoxville, Ill., in 1855.

***Edwin McNeil, (certificate).**

b. Litchfield, Conn.; asst. eng. in charge of constructing "Starrucca Valley" viaduct; Penn. R. R.; N. J. Central; Cayuga & Susquehanna; ch. eng. Del., Lackawanna & Western, 1849-56; Lackawanna & Bloomsburg 1849-56; loc. and con. eng. Macon & Brunswick (Ga.) 1856-59; pres. Lackawanna & Bloomsburg 1859-65; eng. Shipaug Valley; banker, Litchfield, 1865-75; d. West Point, 1875.

***Orlando Dana Miller, M. C. E., M. M. S.; A. M., D. D.**

b. Woodstock, Vt.; univ. clerg. at Republic, Ohio, Albany, N. Y., No. Adams, Mass., Nashua, N. H. Univ. clergyman; Oriental scholar, author; d. So. Merrimack, N. H., 1888.

John Brown Milroy, (certificate).

b. Washington co., Ind., brother maj. gen. R. H. Milroy, '43; cadet 1842-44, completing the military course; col. 77th Reg. Ind. Mil.; capt. Co. A., 9th Ind. Vols., "The Bloody Ninth"; promoted maj.; held many public offices; d. Delphi, Ind., 1896.

***William Addison Newman, M. M. S., A. M.**

Bvt. 1st Lieut. 9th U. S. Inft. (Ransom's) Mex. war; U. S. inspector customs; Toronto, Canada.

†***Daniel S. C. M. Potter, A. B., D. D.**

Episcopal clergyman; Arkansas.

***Simon Manly Preston, A. M.**

b. Strafford, Vt.; Prof. N. U.; asst. eng. Conn. River Valley R. R.; Northern (N. H.) R. R.; Chicago & Northwestern R. R.; ch. eng. Natchez, Jackson & Columbus, Chicago, Burlington & Pacific; cons. eng. Chicago, Rock Island & Pacific; Toledo, Askaloosa & Western R. R.; capt. and asst. adj. gen.; col. 58th U. S. C. I. and brev. brig. gen., civil eng. and banker; Seattle, Wash.

Otis Seth Tenney, A. M., LL. D.

b. Hanover, N. H.; maj. 2nd Ky. Cav. C. S. A.; Prin. of schools; lawyer; Lexington, Ky.

***John C— Crowningshield, 1842-45.**

b. Salem, Mass., capt. co. E., 1st Mass. Vols., Mex. war; editor SALEM ADVERTISER, SALEM DEMOCRATIC JOURNAL; d. Andover, Mass., 1898.

***John Augustus Hall, 1841-44.**

b. Glastonbury, Conn; gen. agent Aetna Fire Ins. Co., Hartford, Conn. d. Hartford, Conn., 1855.

***Stillman Hemmenway, 1841-44.**

b. West Windsor, Vt.; lawyer, Fairhaven, Vt., and La Moille, Ill., d. La Moille, Ill., 1863.

***Milan Hebard Sessions, 1842-44.**

b. Randolph, Vt.; lawyer, Vt., Wis., and Neb.; capt. 21st Wis. Vols.; held many public offices; speaker, Neb. House of Rep.; d. Minneapolis, Minn., 1898.

***William Everett Tutherly, 1842-44.**

b. Unity, N. H.; in business Claremont, N. H.; held many public offices; d. Claremont, 1893.

1846

†**F— T— Alba, M. D.**

Vermont?

***Alexander Moses Bennett, A. M.**

Westmoreland, N. H.

***Charles Willard Burt, A. B.**

b. Westmoreland, N. H.; lawyer; Detroit, Mich.; d. there 1859.

†**Edwin C— Cross, M. D.**

Vermont?

***Henry Louis Slafter Haskell, A. M.**

Mem. 11th Ill. Vols.; lawyer, Bloomington, Ill.

***Lucius Darwin Peirce, A. M.**

b. Chesterfield, N. H.; lawyer; Winchenden, Mass.

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†**Thomas P. Ashe.**

e. f. Demopolis, Ala.; planter in Mo.?; served in C. S. A.?

***Horace Everett Barron, 1843-45.**

b. Bradford, Vt.; asst. eng. Passumpsic (Vt.) R. R.; hotel business, Faribault, Minn.; prominent in politics; d. Faribault, Minn., 1892.

***Linus Dewey Bishop, 1843-45.**
b. Sandy Hill, N. Y.; prin. of schools, lawyer, Mass. and Ill; lt. col. 9th Cav., civil war; d. Ft. Edward, N. Y., 1879.

***Norman Williams Bridge, 1843-45.**
b. Pomfret, Vt.; author; Pomfret, Vt.

***De Witt Clinton Cleaver, 1842-46.**
e. f. Pottsville, Pa.; min. eng.; d. 1862.

***John Oliver Cleaver, 1843-46.**
e. f. Pottsville, Pa.; min. eng.; d. 1853.

***Daniel Baehr Cole, 1842-45.**
b. Salem, N. Y.; editor SALEM PRESS, 1850-69; SALEM REVIEW 1877-84; held many public offices; d. Salem, N. Y., 1884.

Roswell Elijah Merrick, 1843-45.
b. Glastonbury, Conn.; in business in Glastonbury, Conn.

Edward Weston Morris, 1842-46.
b. Strafford, Vt., manufacturer, Hartford, Vt.

***Joseph Anthony Mower, 1844-46.**
b. Woodstock, Vt.; served in eng. corps U. S. A. Mex. war; 2d lt. U. S. Inft. June 18, 1855; col. 11th Mo. Vols.; maj. gen. U. S. Vols.; command of 20th army corps; col. U. S. A. 1866-69; d. New Orleans, 1870.

***Marshall Perkins, M. D., 1842-45.**
b. Craydon, N. H.; M. D. Harv. Med. Coll.; asst. surg. 14th N. H. Vols.; phys. Marlow, N. H.; d. Marlow, N. H., 1902.

***Horace Truman Hanks Pierce, 1843-46.**
b. Chesterfield, N. H.; brick mfr.; lt. 2d N. H. Vols., civil war; capt. 5th N. H.; d. Keene, N. H., 1877.

James Wellington Putnam, 1842-45.
b. Croydon, N. H.; Univ. clerg. Danvers, Mass., 1849-64; held many public offices; author; d. Danvers, Mass., 1864.

1847.

George Williamson Balloch, A. M., LL. D.
b. Claremont, N. H.; asst. eng. Sullivan Co. R. R.; 1st lt. 5th N. H. Vols.; lt. col. and ch. com. 11th and 20th Army Corps; bvt. brig. gen. U. S. Vols.; claim agent, Washington, D. C.

***Napoleon Boardman, M. C. E.**
b. Grand Isle, Vt.; asst. and div. eng. Lake Champlain & Conn. River, 1847-51; Lebanon Springs; res. eng. Rock River Val.; Sheboygan, Fond-du-Lac & Miss.; ch. eng. Milwaukee & La Cross; loc. eng. C. & N. W.; C. M. & St. P. ch. eng. Mich. Air Line 1866-70; Sheboygan & Miss.; Niles & South Bend; Fond-du-Lac & Lake Superior; Chippewa Falls & East. Grand Trunk; Wisconsin Midland; city eng. Fond-du-Lac, where he died in 1900.

Gustave Arvillen Breaux, A. B., (LL. B.)
b. Lafayette, La.; col. 30th La. Vols., C. S. A.; lawyer and planter, Lafayette, La.

***Albert Buswell, A. B., M. D.**
b. Hartland, Vt.; asst. surg. 8th Vt. Vols. Phys. Togus, Me.

***Francis Xavier Chase, M. C. E.**
b. Cornish, N. H.; civil eng.; St. Paul, Minn.

William Pitt Kellogg, L.L. D.
b. Orwell, Vt.; lawyer; ch. justice Supreme Court, Neb col. 7th Ill. cavalry and commanded cavalry brigade; col. of customs New Orleans, 1865-68; U. S. senator La. 1868-72, 1877-83; governor La. 1872-77; congressman La. 1883-85; extensive plantation owner; address Washington, D. C.

***Paul Raymond Kendall, A. B.**
b. Phillipston, Mass.; founder and first pres. Lombard Univ.; 1st lt and Q. M. 12th Mo. Vols.; Q. M. on staff of Gen. Hatch, Army of Tenn.; pres. Clinton Liberal Inst., Fort Plain, N. Y.; Smithon Coll., Logansport, Ind., Galesburg, Ill.

***James Garfield Murphy, A. B., (M. D.)**
b. Alstead, N. H.; phys., Brattleboro, Vt.

†Stephen H. Nichols, A. M.
Weathersfield, Vt.

***Caleb Oliver, A. B.**
b. Athol, Mass.; prin. of schools; Lawrence, Mass.

John Gideon Parker, A. M., (M. D.)
b. Peterboro, N. H.; phys.; Warner, N. H.

John Van Ness Standish, A. M., Ph. D., LL. D.
b. Woodstock, Vt.; has traveled extensively and has published many articles on his travels; prof. math. Lombard Univ. 1854-92; pres. 1892-95; author; Galesburg, Ill.

Solomon Mason Whipple, A. B., (M. D.)
b. Craydon, N. H.; pres. N. H. Med. Soc.; New London, N. H.

***Charles Rollo Wright, A. B.**
b. Williston, Vt.; civil eng. and lawyer; d. Forrest City, Iowa.

William Henry Harrison Hall, 1844-1847.
b. Randolph, Vt.; went to Cal. in 1849 and worked in the mines; pilot and capt. on ships along Pacific coast; capt. 6th Vt. Vols. civil war; man. of oil farms in Pa. and W. Va.; address Chelsea, Vt.

***George Washington Nevins, 1843-46.**
e. f. Norwich, Vt.; removed to Texas; was a member of Lopez's mil. exped. to Cuba in 1852; was captured and executed by the Spanish govt.

†Freeman Parker, 1842-46.
e. f. Washington, Vt.; lumber mfr., Astoria, Ore.

***Wilder W— Parker, 1842-46.**
b. Orange, Vt.; eng. Norwich, copper mine, Mich., 1846-48; went to Cal. in 1849; prop. Hotel, San Francisco 1849-52; alderman 1850-52; lumber mfr. on "Lewis & Clarke" River, 1852-60; Astoria, Ore., 1860-80; coll. of customs, 1861-71; held many public offices; d. Astoria, Jan. 9, 1899.

***Judson Slafter, 1844-46.**

b. Norwich, Vt.; 1st sergeant 23d Mich. Vols. d in hosp., Knoxville, Tenn., 1863.

***George Tucker, 1844-46.**

b. Northfield, Vt.; capt 4th Vt. Vols. civil war; drill-master general "Army of the Potomac," lawyer, Va. and Wash. D. C.; and held many offices; d. 1880.

***William Howard Tucker, 1845-46.**

b. Sharon, Vt., instrument man Cent. Vt., R. R. 1846-8; asst eng. Plattsburg & Montreal R. R.; Conn. and Passumpsic; Plattsburgh & Whitehall, ch. clerk and cashier commissary dept. "Army of the Cumberland;" historian; d. 1895 White River Jc. Vt.

1848.

***Charles Elliott Tilton (Certificate).**

b. Sanbornton, N. H.; went to Cal. in 1849 and engaged in business, meeting with great financial success; formed banking firm of Ladd & Tilton, Portland, 1859-1886; established a line of ships running between Oregon & China; one of the principal owners of the Ore. Rail. & Nav. Co.; dir. in many railway Co's; Tilton, N. H., named in honor of his family; d. Tilton, N. H., 1902.

***David Lawrence Morill Cummings, M. D., 1844-7.**

b. Cornish, N. H., M. D. Castleton Med., Coll.; asst. surg. 4th N. H. Vols. civil war; d. in service 1863.

***Luther S— Dixon, 1845-47.**

b. Milton Vt., lawyer, Portage, Wis.; dist. attorney, 1852-56; Judge 6th Dist. 1856-58; justice supreme court 1858; ch. justice 1859-74; was one of the most distinguished lawyers in the country; d. Milwaukee 1874.

Henry Floyd, 1845-47.

b. Lebanon, N. H.; asst. eng. Mich. Cent. R. R.; St. Paul R. R. in Wis.; county surveyor; has held many public offices; address, Eureka, Wis.

Elias Lyman, 1844-46.

b. Royalton, Vt.; in business Kewanee, Ill.

***George Briggs Lyman, 1844-47.**

b. Royalton, Vt.; agent Adams Express Co., San Francisco, 1859-65; d. Hartford, Vt., 1865.

†*George C— Smith, 1845-47.

b. N. H., 1820; e. f. Meriden, N. H.; capt. 17th Ill. Vols.; wounded at Chickamauga, where he commanded a brigade; prin. Madison school, St. Paul, Minn. 1889-98; d. St. Paul, 1898.

***Evan W. Thomas, 1845-47.**

e. f. N. E. Md.; capt. 4th U. S. Art.; killed by Modoc indians, 1873, in lava beds of Colorado.

John W. L. Tyler, 1845-47.

b. Chesterfield, N. H.; served in Mo. Vols. in Mexican war; capt. and state drill master Ohio Vols; instructor in writing; address, Rome City Ind,

†*Edmund Weston, (M. D.) 1845-49.

b. Randolph, Vt.; M. D. Univ. of Vt. Med. Coll; capt. Co. F, U. S. Sharpshooters; U. S. employ, Wash., D. C.; d. Wash., D. C., about 1900.

†Alfred C— Wilson, 1845-47.

b. Massena, N. Y.; lt. col. 47th Ky. Vols.

1849.

***Clinton Spaulding Averill, B. S., A. M.**

b. Milford, N. H.; prof. nat. sci., N. U.; 1849-50, 1860-62; lawyer and banker, Milford, N. H., where he died in 1878.

***Newell Gleason, B. S., C. E.**

b. Wardsboro, Vt.; asst. eng. Jeffersonville, Columbus, Piqua & Ind.; ch. eng. Cincinnati, Peru & Chicago R. R.; Dubuque Western; Pittsburg, Fort Wayne & Chicago; Iowa & Lansing; Indianapolis & Chicago; Grand River Valley; Grand Rapids & L. Shore; Mansfield, Coldwater & L. Mich.; Chicago, Danville & Vincennes; col. 87th Ind. Vols.; bvt. brig.-gen. U. S. Vols.; d. Chicago, Ill., 1886.

***Jacob Parker Gould, B. S.**

b. Stoneham, Mass.; civ. eng. N. Y. Cent. R. R.; Stoneham Branch R. R.; maj. 13th Mass. Vols.; col. 59th Mass. Vols.; rec'd wound in mine explosion in front of Petersburg, Va., from which he died Aug. 21, 1864; the G. A. R. post at Stoneham is named in his honor; Stoneham, Mass.

***Jesse Augustus Gove, B. S.**

b. Ware, N. H.; was an accomplished draughtsman and painter; lawyer; capt. 10th U. S. Inft.; col. 22d Mass. Vols.; shot through the heart at the battle of Gains Mills, June 27, 1862, while rallying his regiment for a final stand; Concord, N. H.

William Partridge, B. S.

b. Norwich, Vt.; asst. eng. Sullivan co., N. H. R.R.; Trevorton, Mahonny & Susquehanna; Sunbury & Erie; bridge eng.; 1st lt. 43d Wis. Vols.; top. eng. U. S. Vols.; Normal, Ill.

***Calvin Lewis Robinson, A. M.**

Lawyer, Jacksonville, Fla.

***William Wallace Benjamin, 1846-48.**

b. Bridgeport, Vt., prin. of military schools; prin. Mt. Pleasant mil. acad. 1862-82; bank president; d. Sing-Sing, N. Y., 1882.

***Stillman Emerson Dana, 1845-48.**

b. Waitsfield, Vt. went to Col. in 1849 with Gen. Jackman '36 and Pres. Wheaton of "N. U.;" civ. eng. Portage, Wis., and supt. locks and canals, 1856-72; gen'l baggage agent, Great Northern R. R. 1872-90; held many public offices; d. St. Paul, Minn., 1894.

***Lyman Couch Granger, 1846-48.**

b. Pittsford, Vt.; M. D. Coll. Phys. & Surg., N. Y.; asst. surg. U. S. N.; d. of wounds rec'd at Ft. Jackson; d. Whitehall, N. Y., 1864.

***Henry Barnet White, 1846-48.**

b. Shelburne, Vt.; hotel bus., Massena Springs, N Y.; emp. U. S. custom house, N. Y., 1880-86; d. Massena about 1890.

***Thomas Foster Wright, 1845-48.**

b. Jefferson Barracks, Mo.; s. Maj.-Gen. Geo. Wright, U. S. A.; left N. U. in 1848 to enter West Point; cadet West Point, 1848-50; joined Gen. Wm. Walker in his filibustering exped. against Nicaragua; also with Gen. Walker in his attack on Honduras and was severely wounded; col. 2d Cal. Vols. and bvt. brig.-gen. U. S. V., civil war; adj. 32d U. S. Inft., and killed by Modoc indians in lava beds of Oregon, 1872.

1850.

Grenville Mellen Dodge, C. E., LL. D.

b. Danvers, Mass.; asst. eng. Ill. Central; Rock Island; eng. Peoria branch, Rock Island; Miss. & Mo.; conducted over 25,000 miles of surveys for Union Pacific, from the Mo. River to Cal. state line; during civil war, rebuilt part of "Frisco" line; Mobile & Ohio; Memphis & Charlestown; Nashville & Decatur; ch. eng. Union Pacific 1866-70; Oregon Short Line; Texas & Pacific; International & Great Northern; Southern Utah; New Orleans & Pacific; M. K. & T.; Oriental Construction Co. roads in Mexico; Des Moines & Northern; Des Moines & Northwestern; Mexican Southern; Fort Worth & Denver City; Denver, Texas & Fort Worth; built the iron bridge across the Miss. River; Council Bluffs & Omaha; pres. N. Y. "N. U." Alumni assoc. 1880——; col. 4th Iowa Vols. civ. war; maj. gen. Vols. in command 16th Army Corps; M. C. Iowa 1867-69; chairman commis. to investigate condition War Dept., Span. Am. War. Address, New York City.

Obed Foss, B. S.

b. Buxton, Maine; teacher, planter, Altamont, Fla.; lumber manufacturer, Houlton, Maine.

Ormando Wyllis Gray, C. E.

b. Townsend, Vt.; civil eng.; surveyor and publisher of numerous county and state maps and atlases; Bernardston, Mass.

†Henry Hobart Gillum, B. S.

civil eng.; capt. and ass. q. m.; Kansas, Vols.

***Francis Miner Lincoln, B. S. (M. D.)**

b. Boston, Mass.; asst. surg. 9th Mass. Vols.; surg. 35th Mass. Vols.; asst. surg. U. S. A.; Boston, Mass.

***Richard Sullivan Little, C. E.**

b. Grafton, N. H.; location and constructing eng. Rock Valley R. R.; Milwaukee & Mississippi; Milwaukee & Watertown; Ranchman; d. Littleton, Colo., 1900.

***Lafayette Washington Peirce, A. M.**

b. Chesterfield, N. H.; lawyer; Gainesville, Ga.

***John Minot Stanyan.**

b. Andover, Mass.; went to Cal. in 1849; employed in Australia and Nicaragua; capt. 8th N. H. Vols. civ. war; author, historian 8th N. H. Regt.; d. Milford, N. H., 1905.

†Joseph E. Young, B. S.

b. Athol, Mass.; e. f. Lowell, Mass.; asst. eng. Ohio & Pa. R. R., 1851; Alleghany Val., Canton & South. 1852; Ft. Wayne & Chicago 1852; organized and built Chicago & Great Eastern R. R. 1860——? was vice-pres. and gen. man. this road 1860——; organized and built Chicago, Danville & Vincennes 1866-70; gen. man. this road——? constructed Mich. Air Line 18——; Kansas City, Emporia & South. R. R.——; eng. in cons. in Ind. & Ill. 1905; address 71 Park ave., Chicago, Ill.

***Charles Carrol Carpenter, 1848-49.**

b. Mass.; left N. U. to enter West Point; command Asiatic Fleet, 1894-96, during the Chinese-Japanese War; rear-adm'l. U. S. N.; d. Portsmouth, N. H., in 1902.

***John S. Day, 1846-48.**

b. Keene, N. H.; Banker, Boston; d. Brookline, Mass., about 1890.

†Charles H. Dearing, 1846-48.

e. f. Decatur, Ga.; capt. 11th Ga. Vols. C. S. A.

Ralph Smith Dorr, 1846-48.

b. Roxbury, Mass.; merchant. San Francisco, Cal.; address, Colorado City, Colo.

***Henry Whitcomb Holley, 1846-48.**

b. Pierrepont Manor, N. Y.; asst. eng. Cleveland & Pittsburgh; Parkersburgh & Cincinnati; Crawfordsville & Fort Wayne; ch. eng. Southern Minnesota, supt. of this road, 1870-74; capt. of a Vol. Company on "Frontier Duty" during Indian Troubles, 1862; author of a number of works; mining eng., Brit. Columbia, 1891-97; d. Fort Steele, B. C., 1897; last address, Everett, Washington.

***Frederick William Lander, 1848-50.**

b. Salem, Mass.; graduated by certificate from Capt. Partridge in 1850; made a Transcontinental exploration and survey for U. S. Gov't to determine practicability of a R. R. to Pacific Coast; engineered and built the "great overland wagon route" across the Rockies; made five Transcontinental surveys; secret service U. S. Gov't 1861; brig. gen. of Vols.; d. 1862 of disease brought on by service in the field.

***Calvin May, 1847-48.**

b. Gilsum, N. H.; Univ. clergyman; U. S. Revenue Service; d. Keene, N. H., 1862.

1851.

†Samuel Batchelder, A. M.

Prin. of schools; said to have been an officer in the C. S. A.; Kemper Springs, Miss.

Luther Loren Baxter, B. S.

b. Cornwall, Vt.; maj. 4th Minn. Vols.; col. 1st Minn. Heavy Artillery; judge 7th Judicial District; Fergus Falls, Minn.

Sullivan Holman McCollister, A. M., D.D.

b. Marlboro, N. H.; Univ. clergyman; prin. Westbrook (Maine) Seminary; pres. Buchell Col. Akron, Ohio; traveler and author; Marlboro. N. H.

***John Baldwin Thayer Mead, B. S.**

b. Lowell, Mass., ch. eng. Terre Haute & Alton R. R.; State "drill master" Ill. Vols.; 1st lieut adj. 28th Ill. Vols.; d. 1862 of wound received at battle of Shilo; Bunker Hill, Ill.

***Ephraim Morris, A. M.**

b. Strafford, Vt.; manufacturer and banker; Hartford, Vt.

***Dunbar Richard Ransom, B. S.**

b. Fayettsville, N. C.; s. col. T. B. Ransom '25; capt. and brev. col. U. S. Art.; Fort Worth, Texas.

***Thomas Edward Greenfield Ransom.**

b. Norwich, Vt.; s. Truman B. Ransom '25; civil eng. in Ill.; capt., maj., lt. col. and col. 11th Ill. Vols.; brig. gen. and bvt. maj. gen.; commanded 17th Army Corps during Atlanta campaign; d. in 1864 near Rome, Ga., of dysentery brought on by exposure and over work; was one of the most efficient and gallant officers in the army; Ransom Post, G. A. R., St. Louis, Mo., is named in his honor; is buried in Rose Hill cemetery, Chicago.

†***Solon Shedd, B. S.**

Civil eng.; served in Ill. Vols.

***Lewis M— Strobel, B. S.**

b. near Charleston, S. C.; planter; capt. 8th Texas Cavalry or Terry's Texas Rangers, C. S. A.; d. Chenango, Texas, 1869.

***Leonard Jarvis Wright (certificate).**

b. Norwich, Vt.; div. eng. Northern Central R. R. of Pa., 1852-58; Quakake & Catawissa, Pa.; div. eng. Alleghany Valley, 1866-68; Conn. Valley; Boston, Hartford & Erie; eng. on Conn. River R. R.; div. eng. N. Y. & New Eng.; capt. 9th Mich. Cav. Vols.; d. Newtown, Conn., 1889.

***William Rowe Baxter, (A. B.)**

b. Cornwall, Vt.; lawyer; capt. 9th Minn. Vols. civ. war; killed in battle of Guntown, Miss., 1864.

Charles Franklin Kingsbury, M. D., 1848-50.

b. Gilsum, N. H.; M. D., Dart. Med. Coll.; phys., Lyme, N. H., 1860-90; has held many public offices; vice-pres. Boston N. U. Alumni Assoc.; address, West Medford, Mass.

***Daniel Lindsay, 1848-50.**

b. Bristol, Vt.; manufacturer, Bristol; d. 1900.

***Albion Jabez Mower, 1848-49.**

b. Calais, Vt; recruiting officer for 3rd, 6th and 9th Vt. Vols.; extensive farmer; s. Ira Rich, N. U. Class '90; d. Calais, Vt., 1902.

***Henry Adams Smalley, 1848-49.**

b. Burlington, Vt.; grad. West Point, 1854; col. 5th Vt. Vols., civ. war; brev. brig. gen. U. S. Vols.; d. New York, 1888.

1852.

***Charles Young Denniston, A. B.**

b. Plattsburg, N. Y.; civil eng. and real estate; d. Hudson; Wis., 1886.

***Harvey Webster Emery, B. S.**

b. Lisbon, N. H.; prin. of schools, Va.; lawyer Portage, Wis.; state drill master; lieut. col. 5th Wis. Vols.; d. 1862 of disease contracted at second battle of Bull Run; Madison, Wis.

***William Henry Greenwood, C. E.**

b. Dublin, N. H.; constructed over 4,000 miles of railway; asst. eng. Central Military Tract Ry. in Ill.; American Central; ch. eng. Kansas Pacific; con. eng. Denver Pacific; gen'l manager Denver & Rio Grande; Pueblo & Arkansas Valley, through "Royal Gorge," designed the famous "hanging bridge" in this gorge; ch. eng. Marion & McPherson; ch. eng. Mexican National; murdered near Rio Hondo, Mex., 1880; mem. Am. Soc. C. E.; G. A. R. Post, Putney, Vt., named in his honor; capt. 51st Ill. Vols.; lieut. col. and topographical engineer 4th Army Corps; last address, Putney, Vt.

***Henry H— Howard, A. B.**

Lawyer; 1st lt. 21st Iowa Vols.; Lawrence, Kansas.

***William Henry Hubbard, B. S.**

b. Windsor, Vt.; civil eng. and in business, Duluth, Minn.

***Samuel Curtis Simonds, B. S.**

In business; Hudson, Wis.

John Parker Towne, A. B.

b. Milford, N. H.; banker and lawyer Edgerton, Wis.

***Royal Ladd Burge.**

b. Alstead, N. H.; lawyer, Nev.; held many public offices; treas. M. K. & T. R. R.; d. Clinton, Mo., 1868.

***Samuel Hammond Currier, M.D., 1848-52.**

b. Norwich, Vt.,; M. D., U. V. M. '57; asst. surg. 8th Vt. Vols. civil war; phys. Norwich, Vt.; d. Norwich, Vt. 1890.

***George Henry Elliott, 1848-50.**

b. Lowell, Mass.; left N. U. to enter West Point; col. U. S. engineers; carried out some of the most difficult eng. work for the U. S. Govt.; d. 1902.

Albert A. Fletcher, 1849-51.

b. Bridgport, Vt.; banker, Bridgeport and Middlebury, Vt.; col. gov's staff; state senator; address, Middlebury, Vt.

***Charles Jackson Ford, D. D. S.**

b. Uley, England; e. f. Middlebury, Vt., dentist, Dubuque, Iowa; and St. Louis, Mo.; capt. and surg. 6th Iowa Vols.; d. St. Louis, Mo., 1868.

†*Peverill S. Peake, 1848-50.

e. f. Bristol, Vt.

†*Edwin S— Stowell.

e. f. Cornwall, Vt.; capt. 5th Vt. Vols.; maj. and lt.-col. 9th Vt. Vols. civil war; stock man; d. Cornwall in 1880.

*Solomon Erskine Woodward, 1849-51.

b. Millbury, Mass.; mfr. woolen goods, Woodstock, Vt.; 1st lt. 1st Vt. Vols.; capt. and bvt. maj. U. S. A.; d. Woodstock, Vt., 1876.

1853.

James Edward Ainsworth, C. E.

b. Claremont, N. H.; asst. eng. govt. surveys, Iowa; cons. eng. Iowa Falls & Sioux City R. R.; ch. eng. Cedar Falls & Minnesota and various railroads now operated by the C. M. & St. Paul; locating eng. St. Louis & Hannibal; ch. eng. Fremont, Elkhorn & Missouri Valley and Soux City & Pacific; capt 12th Iowa Vols.; Moline, Ill.

Benjamin Franklin George.

b. Hillsboro, N. H.; asst. eng. Marietta & Cincinnati; Racine & Miss. in Wis. 1855-56; Chicago, Iowa & Nebraska 1857; prin. asst. eng. Boston, Lowell & Nashua 1866-73; ch. eng. Boston & Lowell 1875-76; ch. eng. Manchester & Keene 1876-80; supt. of the road 1880-83; address, Bennington, N. H.

*George Preston Greely, B. S. (M. D.)

b. Nashua, N. H.; physician; surgeon; 4th N. H. Vols.; Nashua, N. H.

*Henry Osgood Herrick, B. S.

Planter; in Anderson (?), So. Carolina.

John Quincy Adams McCollister, (M. D.) LL. D

b. Marlboro, N. H.; physician; surg. 53rd Mass. Vols.; vice-pres. Boston Alumni Assoc.; Waltham, Mass.

*Sewall Truax, (certificate).

b. Missisquoi Co., Canada; e. f. Franklin, Vt.; asst. eng. on Union Pacific surveys; crossed the "Plains;" U. S. govt. surveyor, Washington & Oregon; maj. Oregon cav. civil war; d. Spokane, Wash., 1894.

*Addison Richardson Baldwin, 1849-51.

b. Topsham, Vt.; pres. Mass. Chemical Co.; Swanee River R. R. Co.; d. Charlotte, N. Y., 1896.

Eber Richards, 1850-52.

b. Schroon, N. Y.; pulp mfgr. Ticonderoga, N. Y.

*Nathan Abiel Chauncey Smith, 1850-52.

b. Chelsea, Vt.; 1st lt. 12th Wis. Vols., under gen. Bryant, '54; lt. 32d Wis. Vols.; ch. bond div. P. O. dept.; d. Washington, D. C., 1900.

1854.

*Clinton Spaulding Averill.

(see class of 1849.)

†Thomas S— Brownell.

Planter; Greenville, So. Carolina.

George Edwin Bryant, LL. D.

b. Templeton, Mass.; capt. 1st Wis. Vols.; col. 12th Wis. Vols.; brev. brig. gen. in command 1st brigade, 3d division 17th Army Corps; lawyer; Madison, Wis.

George Priest Conn, A. M., (M. D.)

b. Hillsboro, N. H.; M. D. Dart. Med. Col. 1856; phys. E. Randolph, Vt., 1856-61; Concord, N. H., 1863——; asst. surg. 12th Vt. Vols. civ. war; surg. B. & M. R. R. 1880——; prof. of Hygiene Dart. Med. Col. 1894——; author; physician; Concord, N. H.

*William H— Ensign, B. S., M. D.

b. Middletown, Conn.; surg. U. S. Army; New York City.

Henry Oakes Kent, A. M., LL. D.

b. Lancaster, N. H.; col. 17th N. H. Vols.; lawyer and banker; has held many public offices; trustee "N. U."; Lancaster, N. H.

*William Day Munson, B. S.

b. Colchester, Vt.; lieut. Col. 13th Vt. Vols.; asst. eng. St. Croix & Lake Superior R. R.; farmer and surveyor; d. Colchester, Vt., 1903.

Jonas H— Platt, D. S.

Banker and Marine insurance broker; New York.

*Zephaniah Platt, B. S.

b. Milton, Vt.; merchant; Hudson, Wis.

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*Walter Aiken, 1850-52.

b. Franklin, N. H.; inventor of many machines; eng. in charge of building Mt. Washington (N. H., R.R.); designed 1st locomotive; hotel owner in White Mts. and Bermuda Islands; served in 1st N. H. Vols. civ. war; d. Franklin, N. H., in 1890.

*Howard Cornelius Bancroft, 1850-52.

b. Montpelier, Vt.; wholesale dry goods merchant, Columbus, Ohio; d. Columbus, Ohio.

*Charles Edward Griswold, 1850-53.

b. Boston, Mass.; maj. and lt. col. and col. 22d Mass. Vols.; col. 56th Mass. Vols.; shot through the neck in 1864 at the "Battle of the Wilderness.

Oscar Hopestill Leland, (A. M.), 1851-53.

b. Baltimore, Vt.; A. B. & A. M. Baylor Univ.; prof. math. and astronomy 1856-61; Waco Univ.; Texas, 1861-64; adj. 30th Texas Cav. C. S. A.; U. S. revenue service; postmaster; large real estate owner; Waco, Texas.

†Daniel B. Tarr.

e. f. Rockport, Mass.; raised a Co. for civ. war; last address, Sudbury, Mass.

†Thomas E. Morris, 1851-53.

e. f. Buffalo, N. Y.; maj. 15th Mich. Vols.

*Hartop Percell Thomas, 1850-53.

b. W. Fairlee; s. Gen. Stephen Thomas; civ. eng. on Western Rys.; sutler 17th Army Corps; Ry. conductor; d. Centralia, Wis., 1900.

1855.

***Delano Franklin Andrus, B. S.**
b. Norwich, Vt.; merchant; d. Somanauk, Ill.. 1856.

†Samuel Edgar Briggs, B. S.
Claremont, N. H.

Bela Stevens Buel, B. S.
Civil eng.; agent Wells Fargo Express Co.; Spencerport, N. Y.

William Smith Burton, A. B.
b. Norwich, Vt.; editor No. Adams (Mass.) TRANSCRIPT; univ. clergyman; maj. 3rd Mich. Cav.; printer; New York city.

***Arthur Chase, B. S., LL. B.**
Lawyer; Claremont, N. H.

George Dewey, B. S., M. M. S., LL. D.
b. Montpelier, Vt.; admiral U. S. navy, Washington, D. C.

Charles Hatch Long, B. S.
b. Claremont, N. H.; capt. 6th N. H. Vols.; lieut. col. 17th N. H. Vols.; col. 1st N. H. heavy artillery; agent B. & M. R. R.; Claremont, N. H.

Col. Charles Hildreth Lews, B. S., LL. D.
b. Alton, Maine; civ. eng. Minn.; capt. and brev. lieut. col. 16th U. S. Inf.; pres. "N. U." 1880-1890; broker; New York.

William M. Bates, 1852-54.
b. Glastonbury, Conn.; hotel manager, St. Nicholas, N. Y.; Ocean House, Newport, R. I.; Congress Hall, Saratoga Springs, N. Y.; Fifth Avenue Hotel, Everett House, N. Y.; New Southern Hotel, St. Louis; address, Everett House, N. Y. City.

George Blood French, 1851-54.
e. f. Proctorsville, Vt.; 1st sergt. 1st Vt. Vols.; adj. 4th Vt.; capt. Co. F. "Frontier" or 26th N. Y. Cav.; stockman; Fremont, Neb.

***Thomas Gorman. 1852-55.**
e. f. Northampton, Mass.; univ. clerg. Columbus, Ohio, Nashua, N. H., Malden, Mass.; d. Columbus, Ohio, 1890.

***Alfred Gordon Hall.**
b. Portland, Conn.; adj. 9th Conn. Vols.; lieut. col. U. S. A.; d. St. Louis, Mo., 1867.

Oscar Eugene Learnard (certificate) 1851-54.
b. Fairfax, Vt.; lawyer; lieut. col. 1st Kansas Vols.; supt. Haskall Institute, Lawrence, Kans.; Supt. Southern Kan. Ry.; editor Lawrence DAILY JOURNAL; address, Lawrence. Kansas.

†Charles V. Lord, 1852-54.
b. Bangor, Maine; merchant, Bangor, Maine.

***George Olcott, 1850-52.**
b. Charleston; N. H.; banker, Charleston; d. about 1898.

***Willis R— Peake, 1852-54.**
b. Bristol, Vt.; held many public offices; manufacturer; d. Bristol, 1901.

†*Egbert Phelps.
b. Middlebury, Vt.; teacher and lawyer; capt. 19th U. S. Inft.; author; d. Joliet, Ill.; about 1902.

John M. Schall, 1851-54.
e. f. Norristown, Pa.; lt. 2d Pa. Vols.; col. 87th Pa. Vols.; brigade commander; maj. gen. Pa. N. G.; col. Pa. Vols. in Spanish-American War; address, Norristown, Pa.

***Epaphoroditus Hager Seymour.**
b. Middlebury, Vt.; eng. U. S. N.; d. 1864.

Washington R. Vermilye, Jr.
e. f. New York; banker New York; address, Bergen Pt., N. J.

1856.

***George Parsons Buel, B. S.**
b. Lawrenceburg, Ind.; civil eng. Colo.; col. 58th Ind. Vols.; commanded "Pioneer Brigade" army of the Tennessee; lieut. col. 29th U. S. Inft.; col. 15th Inft.; Lawrenceburg, Ind.; d. 1887.

***Arthur Chase, A. B.**
(See class 1855).

***Frederick Howard Farrar, B. S.**
b. Natchez, Miss.; asst. eng. "Board of Public Works" La.; lieut. col. 1st La. Regulars; killed by an explosion of a shell at the battle of Murfersboro, 1863, while in command of his regiment; Point Coupe, La.

***Frederick Norton Freeman B. S.**
(See class of 1857.)

Levi Gleason Kingsley, B. S.
b. Shrewsbury, Vt.; 2d lieut. 1st. Vt. Vols.; maj. 12th Vt. Vols.; Q M. Gen. Vt. Nat'l Guard; brig. gen. Vt. Nat'l Guard; merchant; Rutland, Vt.

†Lorenzo Potter, B. S.
1st lieut. 8th Ill. Vols.; Chicago, Ill.

†Augustine E— Smith, B. S.
Clarendon, Vt. Ohio?

†William H— Chase Strong, B. S.
Col. C. S. A.; Pensacola, Fla.

Arba Nelson Waterman, M. S., LL. D.
b. Greensboro, Vt.; lawyer; lieut. col. 100th Ill. Vols.; judge circuit court 1886-90; judge appelate court; Chicago. Ill.

Edward Bancroft Williston, B. S.
b. Norwich, Vt.; col. 6th U. S. Artillery; brig. gen. U. S. Vols.; Spanish war in command of artillery corps; Chickamauga, Ga.; provost marshal gen. Manilla, P. I.; retired 1901 with rank of brig. gen.; governor soldiers home Washington, D. C.

Henry Clay Wood, A. M., B. S.
b. Winthrop, Maine; A. B. Bowdoin. '54 col. U. S. army (retired) Washington, D. C.

***Jedediah Hyde Baxter, M. D., A. M., LL. B., 1852-54.**
b. Strafford, Vt.; M. D. "U. V. M." '60; surg. 12th Mass. Vols.; surg.-gen. U. S. A.; author; d. Washington, D. C., 1890.

***George Butterick.**
b. Concord, Mass.; sergt. 47th Mass. Vols.; capt. 3d U. S. C. I.; planter, La.; d. Concord, Mass., 1895.

William Henry Fullerton, 1853-55.
b. Windsor, Vt.; in business, Windsor, Vt.

Guirdon S. Hubbard, 1853-55.
b. Chicago, Ill.; capt. 88th Ill. Vols.; real estate business, Chicago; address, Chicago, Ill.

William R. Huntington, A. M., D. D.
e. f. Lowell, Mass.; A. B. Harvard, 1857; P. E. clergyman; rector Grace Church. New York.

John Mitchell, 1853-55.
b. Claremont, N. H.; lawyer, judge Iowa circuit court; d. Des Moines, Iowa.

1857.

***Warren Clark, B. S.**
b. Hopkinton, N. H.; prin. of military schools; state drill master; N. H. Vols.; lawyer; d. Concord, N. H. 1891.

***Frederick Norton Freeman, B. S., A. M.**
b. Claremont, N. H.; prin. of military schools; col. N. Y. Nat'l Guard; manager Penn. Coal Co.; Newbury, N. Y.

Elias Burton, Hart, A. M.
Vice pres. Central Crosstown Railroad Co. (N. Y. City); capitalist, New York City.

***De Forrest Holt Merriman, B. S.**
b. Bradford, N. Y.; merchant; Philadelphia, Penn.

Charles Foster Sayles, B. S.
b. So. Adams, Mass.; asst. eng. Housatonic Tunnel in Mass.; ch. eng. Pittsfield & No. Adams; Lee & Hudson; civil eng.; No. Adams, Mass.

Harry Niles Worthen, B. S.
b. Thetford, Vt., lawyer; maj. 1st Vt. Vols., lieut. col. 4th Vt. Vols.; Hanover, N. H.

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†Frank B— Fenton, 1854-56.
e. f. Bennington, Vt.; capt. Ill. Vols.

***Frederick Fayette Fletcher, 1854-56.**
b. Jericho, Vt.; merchant, Minneapolis, Minn.; d. Minneapolis, 1890.

Levi W— Goodrich, 1854-55.
e. f. Pittsford, Mass.; surveyor, Texas; capt. 30th Texas Cav. C. S. A.; lawyer, Waco, Texas.

Brownell Granger, 1854-56.
b. Greenfield, Mass.; adj. 11th. Mass. Vols.; capt. and bvt. col. U. S. Vols. on staff duty; ch. eng. of horse railroads in Boston; commissioner for state on Hoosac Tunnel; ch. eng. yards and docks Charlestown navy yard, 1874-77; supt. mines, Beechmont, Nova Scotia.

***Samuel Dana Hayes, 1854-56.**
e. f. Brookline, Mass.; s. Allen Augustus Hayes, '25; asst. state chemist; d. 1860.

***Benjamin Hinman Steele, A. B., 1854-55.**
b. Stanstead, Canada; judge (Vt.) supreme court, 1865-70; d. 1873.

William Augustus Treadwell, 1854-56.
b. Salem, Mass.; New York State "drill master" with rank of capt.; capt. 14th N. Y. Art.; col. 1st N. J. Vet. Vols.; mil. ed., New York POST; min., Cal.; address, San Francisco, Cal.

George Otis Tyler, 1854-56.
b. Lowell, Mass.. capt. 43d Mass. Vols.; lumber mfgr., Burlington, Vt.; address, Somerville, Mass.

1858.

***George Washington Hobbs, B. S.**
b. Worcester, Mass.; "drill master" U. S. Vols. civil war; served with the 6th Mass. Vols. in the defense of Washington; one of the founders of the Highland mil. acad., Worcester, Mass.; attorney, New York, New Haven & Hartford R. R.; d. Uxbridge, Mass., 1900.

†*Frank A— Page, B. S.
2nd lieut. 2nd U. S. Inft.; lawyer; Tacoma Park, Washington.

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†*J. Webster Childs, 1855-57.
e. f. Paint Creek, Mich.; col. 4th Mich. Vols.; d. Washington, D. C.

Arthur Lawrence, (D. D.) 1855-56.
e. f. Boston, Mass.; 1st lieut 20th Mass. Vols. and aid on staff of Gen. O. O. Howard; P. E. clergyman, Stockbridge, Mass.

1859.

***Robert E. Hitchcock, B. S.**
1st lieut. U. S. marine corps; killed at the first battle of Bull Run; first Vermonter to fall in the civil war; Shoreham, Vt.

†Cyrus M— Merriman, B. S.
Lumber merchant; Williamsport, Pa.

***Edgar Parker, B. S. (M. D.)**
b. Framingham. Mass.; M. D. Harv. '63; physician; asst. surg. 13th Mass. Vols.; portrait painter; d. Bridgewater, Mass. 1892.

***Joseph Steadman, B. S., A. M., (M. D.)**
b. Medfield, Mass.; sergt. in the famous "6th Mass." Regt. civil war and served defense of Washington 1861; lieut. col. 42nd Mass. Vols., in command of regt. Jan. 1863, July 1864; physician; Jamaica Plains, Boston, Mass.; d. 1900.

Archibald S. Taylor, B. S.
Capt. U. S. Marine Corps, civil war; Pittstown, N. J.

Charles Tyler Walcott, B. S.

b. Readsboro, Vt.; asst. eng. Fitchburg R. R.; Conn. River R. R.; Pittsfield & No. Adams; Boston & Albany; Hoosac Tunnel; 1st asst. eng. Lee & Hudson; ch. eng. Troy & Greenfield; Ware Div. Mass. Central; Brattleboro & Wilmington (Cent. Vt.); Greenfield, Mass.

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†*Frank Power Amsden, 1856-57.

b. Boonville, N. Y.; s. Joel Amsden, '34; R. P. I. Troy, 1854-56; capt. 1st Pa. L. Art.; city eng. Scranton, Pa.; asst. eng. Del. Lackawanna & Western; res. eng. Flushing & North Shore R. R., Long Island; Morris & Essex; d. about 1894.

†C— N.? Baker, 1856-58.

e. f. Sacramento, Cal.

†*Warren Joynes Clark or (J. W.) name changed to J. W. DePoincy, 1856-58.

e. f. St. Marys, Ga.; col. Ga. Vols. C. S. A.

***Robert Jackson. Cowden, 1855-58.**

b. Boston, Mass.; priv. 1st Mass. Vols.; capt. 31st N. Y..; capt. 50 Mass.; killed in battle of Cold Harbor, 1864.

***Samuel H— Cross, 1856-1858.**

b. Westerly, R. I.; town clerk, 1863-82; state senator, 1869-82; state auditor; 1882-87; sec. state, 1887-89; mem. state board of Education, 1873-97; treas. Pawcatuck Valley St. Ry.; d. New York City, July 2, 1898.

***Edwy Wells Foster, M. D., 1856-58.**

b. Shelburne Falls, Mass.; leader band 27th Mass. Vols.; M. D. Boston Univ. Med. Coll.; dentist, physician, author, musical composer; d. Boston, Mass., 1900.

†*Wallace Albert King, 1855 57.

b. Woodstock, Vt.; lieut 4th Mich. Vols.; Priv. Co. B, 7th R. I. Cav. "college cavaliers;" painter; d. Keene, N. H., about 1902.

Charles E. Parker, 1856-58.

b. Vergennes, Vt.; capt. 7th Vt. Vols.; in business in Vergennes, Vt.

Thomas O. Seaver, 1856-58.

b. Pomfret, Vt.; col. 3d Vt. Vols.; rec'd a "medal of honor" from congress; judge of probate, Woodstock, Vt.

Holland Wheeler, 1856-58.

b. Saxton's River, Vt., asst. eng. Leavenworth, Lawrence & Ft. Gibson R. R. Leavenworth branch Kansas Pacific; eng. Solomon, Junction City & Ft. Kearney; McPherson branch, Kansas Pacific; Kansas Central; Kansas Pacific; ch. eng. Sedalia, Warsaw & Southern; eng. elevated R. R. Kansas City; asst. eng. Mo. Pacific R. R.; city eng. Lawrence, Kansas; U. S. mineral surveyor; water works eng.; capt. 3d Regt. Kan. militia in civil war; address, Lawrence, Kansas.

1860.

***Gustavus M. Bascom, B. S.**

b. —, Ohio; e. f. Columbus, O.; drill master Ohio Vols.; lt.-col. and asst. adjt.-gen. 23d Army Corps; bvt.-col; U. S. Vols.; capt. 13th U. S. Inft.; d. Portsmouth, R. I., 1884.

†*George W. Field, B. S.

Capt. 59th Mass. Vols.; Northfield, Mass.

Charles Morton, C. E.

b. Boston, Mass.; asst. city eng., Boston; eng. surv. office, 1867-85; supt. of sewers; mem. Am. Soc. C. E.; cons. eng.; Boston, Mass.

Edmund Rice, B. S., A. M.

b. Cambridge, Mass.; col. 19th Mass. Vols. civil war; col. 6th Mass. Vols. Spanish-American war; col. 26th U. S. Vols. P. I.; col. 19th U. S. Inft.; brig.-gen. (retired); in command "Columbian Guards" World's Fair, Chicago; guards Louisiana Purchase Expos. St. Louis, 1904; Boston, Mass.

Samuel Walker Shattuck, C. E., A. M.

b. Groton, Mass.; sergt.-maj. 6th Mass Vols.; capt. 8th Vt. Vols.; brigade-adjt. pres. and vice-pres. N. U.; dean of the dept. of math. and bus. man., Univ. of Ill.; Champaign, Ill.

***Sumner Timothy Smith, B. S., (M. D.)**

Master's mate U. S N.; phys.; Athol, Mass.

***Noel Byron Howard, 1856-59.**

b. Fairfax, Vt.; teacher in N. C. 1859-60; col. 2d Iowa Vols. 1864; served as brigade commander for some time; d. — Florida 1871.

***Byron Hector Kilbourn, (M.D.), 1857-59.**

b. Milwaukee, Wis.; M. D. Rush Med. Coll.; one of the founders Phi Delta Kappa Frat. "N. U." lt. 3d Wis. cav.; phys. Milwaukee; d. Milwaukee in 1897.

Henry Alfred Robbins, (M. D.), 1858-60.

b. St. Louis, Mo.; M. D. U. of Pa.; med. dir. 2d Wis. Vols; phys. U. S. A.; surg. and maj. France Nat. Guard during the "Commune"; prof. Georgetown Univ. Med. Coll.; author of medical works; phys; Washington, D. C.

William Starr, 1857-59.

b. Seneca Falls, N. Y.; 6th Mass. Vols.; clerk A. M. dept. civil war; in business New Orleans, La.

1861.

Charles Albert Curtis, A. M.

b. Hallowell, Me.; milit. instructor 6th Maine Vols.; act. asst.-adjt.-gen. on the staff of Gen. W. S. Hancock; 1st lt. and bvt. capt. U. S. A.; pres. N. U. 1875-1880; author; commandant, Univ. of Wis., Madison, Wis.

Josiah Hall, B. S.

b. Westminster, west, Vt.; col. 1st Vt. Cav.; confined in Libby prison; took part in 78 battles and engagements with his regiment; farmer and eng.; coll. Fresno Co., Cal.

***Charles Bradley Stoughton, A. M., LL.D.**

b. Chester, Vt.; drill master Vt. Vols.; col. 4th Vt. Vols.; bvt. brig.-gen. U. S. Vols.; lawyer; Bellows Falls, Vt. d —.

***Walter Abbott, 1857-59.**

e. f. Warren, R. I.; U. S. Naval Acad., 1859-61; lt. com. U. S. N.; d. Madeira Islands, 1871.

†George V. Boutelle, 1857-59.

e. f. Troy, N. Y.; maj. 21st N. Y. Vols.; civil eng.?

***Edward Aiken Chandler, 1857-61.**

b. Pomfret, Vt.; state drill master, Vt.; 1st lt. 3d Vt. Vols.; in business Redwood Falls, Minn.; d. there in 1886.

†*James K— Ewart, 1857-61.

e. f. Sparta, O.; capt. 26th Ohio vols.; banker Maysville, Mo., in 1900.

***Thomas William Eayre, 1858-61.**

e. f. Vincentown, N. J.; drill master Vt. Vols.; adjt. 5th N. J. Vols; capt. and asst. adj.-gen.; shot through the heart at Spottsylvania court house.

***Thomas Albert Henderson, (L. L. B.)**

b. Dover, N. H.; LL.B. Harvard Law School; lt.-col. 7th N. H. Vols.; shot while in command of regiment in battle of "Deep Bottom," near Richmond, in 1864.

†Nathaniel Irish, 1857-59.

e. f. Pittsburgh, Pa.; capt. Pa. lt. artil. during civil war.

***Frank Curtis Pierce, 1858-61.**

e. f. Augusta, Me.; left N. U. to enter army; capt. 6th Maine.

†*Julius R. Richardson.

b. Montpelier, Vt.; paymaster U. S. N., merchant and mem. Stock Exchange Chicago, Ill.

1862.

Theodore Harvey Kellogg, A. M., (M. D.)

1st lt. 7th squadron, R. I. Cav. "College Cavaliers"; phys.; author; supt. of various insane hospitals, N. Y.; Riverdale, N. Y.

***Edward Treadway Jones, 1859-61.**

b. Chelsea, Vt.; left. N. U. in 1861; state drill master"; drilled 2d, 3d, 4th, 6th, and 8th Vt. Vols; served in the field with 6th Vt. Vols.; d. of disease contracted in service.

†*Walter A. Phillips, 1859-61.

b. Montpelier, Vt.; lt. 1st Vt. Lt. Artil.; d. Ill. 1902.

***Van Beuren Sleeper, 1859-62.**

b. Chelsea, Vt.; 2d Vt. Vols. and Signal Service; city treas. Lowell, Mass., 1883-90; d. Lowell, 1890.

†Nicholas Tanco, 1859-61.

e. f. Matanzas, Cuba; is said to have been an officer in the Cuban army

1863.

***Henry Elijah Alvord, C. E., LL. D.**

b. Greenfield, Mass.; 1st sergt. 7th squad. R. I. Cav. "College Cavaliers", maj. 2d Cav. Mass. Vols.; capt. 10th U. S. Cav.; prof. mil. science, Mass. Agricultural Coll. pres and dir. of agricultural colleges in Maryland, New York, Oklahoma, and New Hampshire; chief dairy division U. S. Agrl. Dept., Washington, D. C.; d. St. Louis, Mo., 1904.

Charles Henry Atwood, B. S.

b. St. Albans, Vt.; merchant, St. Albans, Vt.

***George Alonzo Bailey, B. S.**

b. Woodstock, Vt.; drill master Vt. Vols.; private 7th squad. R. I. Cav.; capt. 11th Vt. Vols.; d. Woodstock, Vt., 1867.

Curtis Sawyer Barrett, B. S.

Capt. and Q. M. U. S. Vols.; capitalist, Cleveland, O.

†Charles O — Bradley, B. S.

b. Lebanon, N. H.; 1st sergt. 1st N. H. Vols.; capt. 14th N. H. Vols.; capt. N. H. Heavy Artillery; capt. 20th U. S. Inft.; d. Fort Maginnis, Mont. 1887; Concord, N. H.

Charles Edmund Bush, B. S.

b. Shoreham, Vt.; sergt.-maj. 7th R. I. Cav. "College Cavaliers"; banker, Orwell, Vt.; pulp mfr., Ticonderoga, N. Y.; address New York City.

George Albert Converse, B. S., A. M.

b. Norwich, Vt.; grad. U. S. Naval Acad. 1865; has held many important commands in U. S. N.; rear-admiral U. S. N.; Washington, D. C.

Charles A. Coolidge, B. S., (M. D.)

b. Boston, Mass.; M. D. Univ. of Worcester; Ohio, 1874; served in civil war; lt. col. 6th U. S. Inft. and in command of regiment at the taking of Peking, China, 1900; col. 2d U. S. Inft.; brig.-gen. (retired); San Francisco, Cal.

William Strong Dewey, B. S.

b. Quechee, Vt.; private Co. B., 7th Squad., R. I. Cav.; capitalist and manufacturer; Quechee, Vt.

William Haven, B. S.

1st lt. 12th N. H. Vols.; merchant; Ottumwa, Iowa.

***Rufus Leander Moses, B. S.**

b. Montpelier, Vt.; 1st sergt. 3d Vt. Vols.; teacher and civil eng; d. Randolph, Vt., 1872.

***George Hawes Ober, B. S.**

Fayetsville, Vt.

†A.— H.— Page, B. S.

e. f. Warren, Mass.; served in Penn. Vols.?

***Rody Patterson, Jr., B. S.**

b. Pittsburg, Pa.; prop. of Springhurst Stock Farm; d. Lexington, Ky., 1886.

Clayton Eugene Rich, B. S.
b. —; e. f. Shoreham, Vt.; capitalist, New York City.

***Charles Edward Steele, B. S.**
b. Chelsea, Vt.; Windsor, Vt.

William Spencer Vernam, B. S.
b. Lyons, N. Y.; left N. U. to become adj. 175th N. Y. Vols. civil war; 1st lt. and ch. Ordnance, Dept. of the Gulf; capt. 18th U. S. Cav., but continued as ch. Ordnance; U. S. Consul China 1869-72; broker firm Wm. S. Vernam & Co., Wall street 1892-98; N. Y. man. Morse Iron Works and Dry Dock Co. 1898-1902; vice-pres. and gen. man. Manhattan Tool Co. 1902; address Brooklyn, N. Y

Charles Edward Ashcroft, 1859-61.
e. f. Boston; left N. U.; to become drill-master Mass Vols.; mech. eng. and an authority on steam eng.; address Boston, Mass.

†William B. Hays, 1859-61.
b. Pittsburg, Pa.; city recorder, Pittsburg, Pa.

***Charles Arthur Hoyt.**
e. f. Deerfield, Mass.; merchant N. Y.; d. 1903.

John William Parsons (M. D.), 1860-61.
b. Rye, N. H.; M. D. Harv. Med. Coll.; asst. surg. 24th Mass. Vols.; physician Portsmouth, N. H.

***Albert Sabine, 1861-62.**
b. Woodstock, Vt.; left N. U. to enter army; 1st lt. First U. S. Inft.; d. 1863 of disease contracted at siege of Vicksburg.

1864.

Lemuel Abijah Abbott, B. S.
b. Barre, Vt.; capt. 10th Vt. Vols.; capt. 6th U. S. Cav.; bvt. maj. U. S. A.; (retired 1883); author; Barre, Vt.

Edward Dean Adams, M. S.
b. Boston, Mass.; mem. firm Winslow, Lanier & Co., bankers. 1878-93; railroad organizer; pres. Cataract Cons. Co.; chairman board of directors Northern Pacific R. R.; fellow Amer. Soc. C. E.; representative Deutsche Bank, Berlin, Germany; chair. finance com., Allis-Chalmers Co.; trustee "N. U." 1904—; N. Y. city.

†Warren Franklin Bascom, B. S.
Civil engineer, Whitehall, N. Y.

***Julius Jacob Estey, B. S., A. M.**
b. Brattleboro, Vt.; brig.-gen. in command of Vt. Nat. Guard; pres. Estey Organ & Piano Co; d. Brattleboro, Vt., 1901.

†William Gerrish, B. S.
Chelsea, Mass.; d. 1903.

***Charles Daniel Gregory, B. S.**
b. Concord, Vt.; merchant; d. St. Louis, Mo., 1886.

Dwight Henry Kelton, A. M., LL. D.
b. Montpelier, Vt.; mem. 98th N. Y. Vols.; capt. 115th U. S. C. I.; capt. U. S. Inft.; retired in 1888; author; Montpelier, Vt.

Charles Nelson Kent, B. S.
b. Lancaster, N. H.; 1st lt. 17th N. H. Vols.; historian of regiment; mem. firm Geo. P. Rowell & Co, New York, N. Y.

Thomas Jefferson Lasier, B. S.
Freeport, Ill; editor *Lake Superior Miner; The National Eagle*, N. H.; ch. clerk Bureau and Supplies, Navy Dept., Washington, D C.

†Robert Chandler Lord, B. S.
e. f. Boston, Mass.; 1st lt. 3d U. S. Inft.; civil engineer, Chicago, Ill.

†Frederick Halsey McCulloch, B. S.
e. f. Fort Wayne, Ind.; said to have been a planter in Virginia?

Ralph Metcalf, B. S.
b. Newport, N. H.; 1st lt. Penn. Nat. Guard; receiver Dime Savings Bank, Chicago, Ill.

Arthur Paine Morey, B. S.
b. Randolph, Vt.; priv. 7th Squad. R. I. Cav., "College Cavaliers"; capt. 22d U. S. C. I.; bvt. maj. U. S. Vols.; Vt. State drill master; banker; Sedalia, Mo.

†John Holbrook Osgood, B. S.
b. Pomfret, Conn.; capt. U. S. C. I.; Pomfret, Conn.

Dudley Farley Phelps, B. S., L.L. D.
b. Groton, Mass; LL. B. Harv., 1867; adj. 20th U. S. C. I.; chief law officer, U. S. Custom House; lawyer, New York.

Henry Moses Phillips, A. M.
b. Athol, Mass.; priv. 7th Squad. R. I. Cav.; instructor commis. officers Vt. Vols. 1862; 1st. lt. and bvt. capt. 4th Mass. Cav.; pres. Phillips Mfg Co.; mayor Springfield; post-master; state treas.; sec. Mass. Mut. Life Ins. Co., Springfield, Mass.

***Abbott Allen Shattuck, B. S., A. M.**
b. New Ipswich, N. H.; corp. 6th Mass. Vols. in defence of Washington; Vt. state drill master; capt. 25th U. S. C. I.; Kansas City.

Charles Francis Thorndike, B. S.
Beverly, Mass.

***Charles Foster Tillinghast, Jr., B. S.**
1st lt. and adj. 7th Squad. R. I. Cav., "College Cavaliers"; civil eng.; killed in 1871 by an oil well explosion in Penn. Pittsburg, Penn.

***Francis Asbury Sawyer, B. S.**
Member firm of F. A. & J. Sawyer, and Charles Sawyer, Woolen Mfrs.; Dover, N. H.; d. Boston, Mass., 1889.

***Edward Stanley Abbott, 1862.**

b. Beverly, Mass.; entered from Harv. Univ. to take mil. course; 1st lt. and bvt. capt. 17th U. S. Inft.; d. of disease contracted in service.

Charles Guy Cargill, (M. D.), 1861-63.

b. Lancaster, N. H.; left N. U. to enter army; corp. 16th Vt. Vols.; M. D. Dart; phys. San Juan de Baptista, Cal.

***William Henry Chaffin, 1861-63.**

b. Claremont, N. H.; capt. 14th Vols.; killed in battle Sept. 19, 1864, at Opequa, Va.

†William Aseph Dodge.

b. Post-Mills, Vt.; lt. Co. B., 9th Vt. Vols.; address Post Mills, Vt.

Lloyd Byron Fuller, 1861-62.

b. Plainfield, N. H.; served in Ill. Vols. in charge forage post of Vicksburg; capt. 2d U. S. Inft.; planter; asst. eng. Chicago & Alton. Peoria & Rock Island; Gilman, Clinton & Springfield; ch. eng. Chicago & Danville; Kansas City, Emporia & South.; Kansas City, Memphis & South.; supt. cons. Mex. Central; asst. city eng. Chicago and built cribs for water works; eng. in charge of bridges, Chicago; address Chicago, Ill.

***Frederick William Galbraith, 1861-62.**

b. Mt. Vernon, Me.; state drill master; 2d lt. 3d Maine Vols.; capt. and lt. col. on Gen. O. O. Howard's staff; lawyer; d. Cambridge, Mass., 1896.

***Edward Myron Granger, 1861-63.**

b. Pittsford, Vt.; 1st sergt. "Harris Light Cav." of N. Y. city; shot through the body during Sheridan's raid through Winchester in 1864.

Walter Scott Hazelton, 1861-63.

b. Strafford, Vt.; served in Co. B., 7th R. I. Cavalry, "College Cavaliers"; banker; Elkhart, Ind.

Horace Chapin Henry, 1861-62.

b. N. Bennington, Vt.; lt. 14th Vt. Vols.; railroad contractor, building large part of Minneapolis & St. Louis "Soo Line"; Northern Pacific; Great North.; Everett & Monte Cristo; address Seattle, Wash.

William Romeo Hoyt, 1861-62.

b. St. Albans, Vt.; 1st lt. 10th Vt. Vols.; lawyer, Chippewa Falls, Wis.

William Rutherford Mead, 1861-63.

b. Brattleboro, Vt.; A.B. Amherst Coll.; architect, firm McKim, Mead & White, N. Y. city.

†Fred Walter Moores, 1861-63.

e. f. Charlestown, Mass.; s. Fred Moores, U. S. N.; said to have served in civ. war.

George Frederick Putnam, 1861-63.

b. Croydon, N. H.; lawyer; banker, Kansas City, Mo.

Henry Lake Slayton, 1861-62.

b. Woodstock, Vt.; drill master N. H. Vols.; capt. U. S. C. I.; grad. Albany Law School; supt. schools, Texas; man. Slayton Lyceum Bureau, Chicago, Ill.

Charles Sleeper, 1861-63.

b St. Albans, Me.; supt. San Francisco clearing house; San Francisco, Cal.

†Ellis Pitcher Walcott, 1861-63.

e. f. Utica, N. Y.; Co. B., 7th R. I. Cav.; "College Cavaliers"; 1st lt. 8th N. Y. Heavy Art.; civil eng., La Crosse, Wis.

†*Franklin Hamilton Walcott, 1861-63.

e. f. New York.; Mills, N. Y.; priv. Co. B, 7th R. I. Cav., "College Cavaliers"; sergt. maj. N. Y. Vols.; in business N. Y. city; d. —— N. J. in 1903.

Adin Hamlin Whitmore, 1861-63.

e. f. Springfield, Vt.; 2d lt. 16th Vt. Vols.; real estate and insurance; East Las Vegas, New Mexico.

Frank Whitney, 1861-62.

b. Lynn, Mass.; mem. banking firm Whitney Bros. & Co., Boston, Mass., and has charge of branch house in Calcutta, India.

1865.

†*Frank Timothy Bottomly, B. S.

e. f. Cherry Valley, Mass.

†*John Curry Boyd, B. S.

e. f. Boston, Mass.

Oscar Barron Child, B. S.

b. Pomfret, Vt.; adj. 8th Vt. Nat. Guard. railway mail clerk; planter Deland, Fla;

John Jasper Dewey, M. S.

b. Quechee, Vt.; pres. A. G. Dewey & Co. Woolen Mfg. Co., Quechee; pres. Woodstock R. R.; trustee N. U.; Quechee, Vt.

Joseph Hiram Goulding, A. B.

b. Potsdam, N. Y.; 1st lt. 6th U. S. C. I.; sec. and treas. Dorset Marble Co.; treas. Wilmington Savings Bank, Wilmington.

Samuel Harrison Green (A. M.), D. D., (L.L. D.).

b. Enosburg, Vt.: A. M., D. D., Colgate Univ; LL. D. Columbian Univ.; D D. and LL. D. Norwich Univ.; Baptist clergyman; pastor Calv. Church, Washington, D C; acting pres. Columbian Univ. (now George Washington Univ.) 1890-1904; Washington, D. C.

Henry Augustus Howard, B. S.

Windsor, Vt.; private 60th Mass. Vols.; lawyer; district attorney Warren Co.; Glens Falls, N. Y.

William Woodbury Howard, B. S.

b. Hallowell, Me.; govt. surv., Minn.; man. Gas Savings Co., St. Paul, Minn.

John Swift Richards, M. S. L.L. B.)

b. Geneva, N. Y.; LL. B. Columbia Law School, '69; private 60th Mass. Vols.; lawyer; New York.

Benjamin Kearney Roberts, B. S.

b. Memphis, Tenn.; 2d lt. 7th Iowa Cav.; capt. and asst. adjt.-gen. U. S. Vols.; bvt. maj. U. S. Vols.; col. U. S. art. corps; Washington, D. C.

†**Charles Henry Smart, B. S.**
In business, Manchester, N. H.

***Jesse Bishop Smith, B. S.**
e. f. Strafford, Vt.; lt. U. S. N.; d. —? Strafford, Vt.

Leonard Boardman Brown, 1862-64.
b. Stark, Me.; editor Maine *Standard* 1868-73; Concord *Patriot* 1874-78; Boston *Globe* 1878-79; *People and Patriot* 1879-81; address Concord, N. H.

Henry E. S. Cowles, 1862-63.
b. Claremont, N. H.; merchant, Boston, Mass.; address Claremont, N. H.

†***George Albert Folsom, 1862-64.**
e. f. Sunrise City, Minn.; capt. 57th U. S. C. I.; advertising business, Boston; d. Malden, Mass., in 1900.

Augustus Villeroy Hill (M. D.), 1863-64.
b. Salem, N. Y.; M. D. Coll. Phys. & Surg.; phys. Guttenburg, N. J.

***Edmund Charles Houghton, 1862-65.**
b. Shaftsbury, Vt.; merchant No. Bennington, Vt.; served in corps cadets at Newport, Vt., 1864; d. Pasadena, Cal., 1894.

William Fowle Ladd, 1862-64.
b. Portsmouth, N. H.; cotton merchant, Galveston, Texas.

***Thomas Greenfield Rice, 1861-63.**
b. Winslow, Me.; 1st sergt. 2d Maine Cav.; 2d lt. 4th U. S. Cav.; d. 1865 near Vicksburg, Mis., of disease contracted in service.

***John Robertson, 1862-65.**
e. f. Charlestown, N. H.; P. E. clerg.; Jesuit priest; d. East Indies about 1890.

†***Marshall Burton Stebbins, 1863-65.**
b. Bradford, Vt.; mem. hardware firm Davis, Stebbins & Co., Boston; d. Malden, Mass., in 1890.

Holland Newton Stevenson (C. E.).
e. f. Cambridge, N. Y; C. E, R. P. I., Troy, N. Y.; ch. eng. U. S. N; served at battle of "Manila Bay" in 1898; address Washington, D. C.

Edward Lothrop Stoddard, 1862-65.
b. Boston, Mass.; P. E. clerg.; rector Jersey City, N. J.

James Vermilyea Sweetser, 1863-65.
b. Marion, Ind.; extensive manufacturer and banker; Marion, Ind.

Clarence Weston Tolles, (M.D.) 1862-65.
b. Claremont, N. H.; M. D. Bellevue Med. Hosp; phys.; Claremont, N. H.

Charles Eben Wentworth, 1862-64.
b. Cincinnati, Ohio; printer and mfr.; Cambridge, Mass.

Charles Henry Wood, 1862-64.
b. Gardner, Mass.; treas. and manager continental mills, Lewiston, Maine; address Boston, Mass.

1866.

William B.— Eaton, Jr.
e. f. Groton, Mass.; purser Bangor & Boston S. S. Co.; Boston, Mass.

***†William Chauncey Hayden Needham, B. S., M. D.**
e. f. Groton, Mass.; private 60th Mass. Vols.; physician; held many state offices; Columbus, Ohio.

***Charles Henry Reed, B. S.**
b. Boston, Mass; merchant, Boston, Mass; d. there 1882.

Reuel Small, B. S.
b. Newry, Me.; lawyer; official Reporter of Debates in the U. S. House of Representatives, Washington, D. C.

Samuel Thomas Wellman, C. E.
b. Wareham, Mass.; corp. 1st N. H. Heavy Art. 1864-65; eng. for Richmond, Potts & Loring 1866-69; erected many furnaces in various parts of the U. S.; eng. and asst. supt. Nashua (N. H.) Iron Co., 1870-73; ch. eng. and supt. Otis Steel & Iron Co., 1873-89; pres. Wellman, Seaver Engine Co., Cleveland, O., 1890-1902; Wellman, Seaver, Morgan Eng. Co. 1902; their Cleveland plant is a model of its kind; this company has erected furnaces and steel plants in all parts of the world; has taken out many patents; mem. Am. Soc. C. E.; pres. Am. Soc. Mech. Eng. 1900-04; Am. Inst. Elec. Eng.; British Inst Mech. Eng.; Ver. Deutscher Eisen-putten-leute.

***James Anson Lawrence Whittier, B. S, L.L. B.**
Lawyer, Boston, Mass.

***Charles Henry Potter, 1863-65.**
e. f. Greenfield, Mass.; mfr., Fitchburg, Mass.; d. 1897.

Eli Gowdy Stiles, 1862-64.
b. Melrose, Conn.; farmer and business man, Melrose.

Charles Frederick Tibbetts, 1862-63.
b. Augusta, Me.; drummer 21st Maine Vols.; 1st sergt. Maine Vols.; address Augusta, Me.

1867

***James Edwin Batchelder, C. E.**
b. Highgate, Vt.; Priv. Co. E. 5th Vt. Vols.; grad. West Point, '68; 1st lieut. U. S. Cavalry; civil eng.; commandant N. U.; Northfield, Vt.; d Montana, 1880.

†**Seth Henry Benson, B. S.**
e. f. Blackstone, Mass.

George Partridge Colvocoresses, A. M.
b. Norwich, Vt.; captain U. S. N.; navigator U. S. S. Concord at battle of "Manila Bay" 1898; Washington, D.C.

Harland Page Davidson, A. M.

b. Hooksett, N. H.; Prin. schools in Pa., N. J. and Vt.; commandant military acad. Morgan Park, Ill.; In 1888 opened Northwestern military academy, and has been its supt. since that date; editor and author: A. M. "N. U." 1892.

†Francis Marion Gowdy, B. S.

b. Melrose, Conn.; merchant and postmaster; Melrose, Conn., d. there 1886.

Myron Robert Hurlbut, B. S.

b. St. Albans, Vt., asst. paymaster C. V. R. R.; St. Albans, Vt.

Wesley Kimball Walton, B. S.

b. Dixfield, Maine; Lawyer; sec. land dept.; Salt Lake City, Utah.

***Henry Clay Baxter, 1862-64.**

b. Derby Line, Vt.; son Portus Baxter, '25; 1st. lt. bvt. maj. 11th Vt. Vols.; hotel business; d. 1891; Derby Line, Vt.

Charles Phillip Burr, 1863-66.

e. f. Batesville, Ark.; cotton broker; St. Louis, Mo.

Henry Clay Clark, 1863-66.

b. Roxbury, N. H.; col. N. Y. N. G.; supt. Jordan, Marsh & Co. store, Boston, Mass.

***William Fiske, 1863-64.**

b. Roxbury, Mass.; served 43d Mass. Vols.; in business Boston and Liverpool; d. Roxbury, 1873.

Howard Fremont Hill (A. M.) (Ph. D.) D. D.

b. Concord, N. H.; cadet 1863-65; A. B. Dart., '67; P. E. clerg., Concord, N. H.; Chaplain Vt. N. G. 1883-95; trustee N. U. 1895-—; author; address Concord, N. H.

†Winslow Metcalf Lindsay, 1862-64.

e. f. Laconia. N. H.; is said to have been a capt. in the Kansas Vols., civil war.

John Henry McLoud, 1863-65.

b. Calais, Vt.; prin. schools, Hardwick, Vt.; merchant, Hardwick, Vt.

George Edmund Otis, LL. B., 1863-65.

b. Boston, Mass.; served in 6th Mass. Vols.; LL. B. Harv. Law School, 1867; Judge Superior Court, Cal.; lawyer in partnership with Fred W. Gregg, ex 73, at San Bernardino, Cal.

Augustus Lorenzo Papanti, 1863-66.

e. f. Boston, Mass.; capt. 2d Mass. Cav.; prop. "Papanti's Dance Hall," Boston.

***James Ezekiel Porter, 1862-63.**

b. Strong, Me.; left N. U. to enter West Point; grad. '67; 1st lt. 7th Cav.; served in Indian campaign; killed in "Custer's Last Fight," June 25, 1876.

Charles Montgomery Reed (A. B., LL. B.), 1863-65.

b. Brookline, Mass.; A. B. Dart., 1867; LL. B. Harvard; lawyer, Boston, Mass.

†Charles Storey Wheelright, 1863-66.

b. Roxbury, Mass.; said to have served in civil war; in business, Providence, R. I.

1868

***Nathaniel Webster Ellis, C. E.**

b. Fordham N. Y.; asst. eng. Suncook R. R.; Sugar River R. R.; asst. eng. Boston & Maine R. R.; division eng. on the Orequipa & Pumo R. R. in Peru; Union Pacific & Central Rys.; water works eng.; Mem. Am. Soc. C. E.; Manchester. N. H.; d. Boston 1889.

†*Robert Grosvenor, B. S.

Providence, R. I.

Charles Marseilles, A. M.

Editor and author, Exeter. N. H.

George K. Sabin, B. S., M. D.

Physician; Brookline, Mass.

Charles R— Wallingford, B. S.

b. Milford, N. H.; lawyer; employ. Piscataquis Pulp and Paper Co.; Montague, Maine.

William Henry Wentworth, C. E.

b. Oswego, N. Y.; Priv. 184 N. Y. Vols.; div. eng. New York, Ontario & Western R. R.; locating eng. New Orleans, Mob. & Chattanooga; Houston & Tex. Cent.; Southern Pacific; cons. eng. Tex. Pacific; Houston, east and west Texas; ch. eng. Dallas and Wichita; Monterey and Mexican Gulf; div. eng. Mex. National; city eng. Dallas, Texas; cons. eng. and mine owner, Monterey, Mex.; mem. Am. Soc. C. E.

***Frank Mortimer Whiting, B. S.**

Mem. firm F. M. Whiting & Co., mfrs. of silver goods; No. Attleboro, Mass.

***James Knight Polk Chamberlin, 1865-67.**

b. Pomfret, Vt.; grad. Albany Law School; lawyer, Lincoln, Neb., where he died in 1889.

William Richard Cutter, A. M., 1865-67.

b. Woburn, Mass.; A. M. N. U. 1893; author; historical and genealogical works; librarian Woburn public library, Woburn, Mass.

***Alexander Bryan Johnson, 1864-67.**

b. Utica, N. Y.; lawyer N. Y. city; mem. Union League Club; he with his wife perished in the "Windsor Hotel" fire in 1902.

Frederick Eugene Ransom, 1864-66.

b. Norwich, Vt.; s. Col. Truman B. Ransom, '25; civil eng.; 2d lt. 11th Ill. Vols.; priv. 3d U. S. Cav.; asst. eng. Union Pac. R. R.; address Soldiers' Home, Quincy, Ill.

Edward Warren Sawyer, A. M. (M. D.)
b Newburyport, Mass.; M. D. Harv., 1873; A. M. by N. U.; lect. and prof., Rush Med. Coll., Chicago; author of many medical works; address Chicago, Ill.

William Ellery Channing Sweet, 1864-67.
e. f. Sweetsburg, P. Q.; lawyer Denver, Col.

1869.

Charles Dole, A. M.
b. Northfield Vt.; prof. N. U. 1871-86; vice-pres. N. U.; in business Northfield, Vt.

Clarence Lockwood Hathaway, A. M., M. D.
Physician; Winthrop, Mass.

Henry John Skinner Howe, B. S.
b. Northfield, Vt.; banker, Marshaltown, Iowa.

Charles S—. Denison.
b. Gambia, Ohio; B S. and C. E. Univ. of Vt.; asst. eng. Milwaukee & North.; prof. drafting, Univ. of Michigan 1876—; address Ann Arbor, Mich.

***William Henry Hunt, 1865-68.**
b. St. Albans, Vt.; asst. eng. Northern Pacific R. R.; paymaster Central Vt. R. R. 1876-95; held many public offices; d. St. Albans, Vt., 1895.

1870.

†Job Francis Davis, B. S.
e. f. Falmouth, Mass.

Walter Dole, B. S., A. M.
b. Northfield, Vt.; graduate Meadville Theol. Sem.; Univ. clergyman; Northfield, Vt.

†Alfred Briggs Gilbert, B. S.
e. f. Lanesboro, Mass.

***Charles Gilman Tarbell, B. S.**
b. Randolph, Vt.; private 8th Vt. Vols. and U. S. Signal Corps; prin. of schools in Vt., Ill., Minn. and Cal.; Randolph, Vt.; d. 1881.

†George Morrison Willard, B. S.
e. f. No. Hartland; Hartland, Vt.

1871.

***†William Griffith Owen, B. S.**
b Northfield, Vt.; druggist, Boston, Mass.; d. about 1880.

Adrian Scott (A. M., Ph. D.).
b. Blackstone, Mass.; supt. schools; author and prof. at Brown Univ.; address Blackstone, Mass.

1872.

***Stephen Higginson Campbell, B. S.**
b. Charleston, S. C.; cashier Col. Nat. Bank; Denver, Col.; d. Phœnix, Ariz., 1891.

Waldo Park Clement, M. S.
b. Rutland, Vt.; pres. Chilton Paint Co.; mem. firm Haven & Clement, brokers; mem. N. Y. Stock Exchange; New York, N. Y.

Samuel Dimmock Conant, B, S.
b. Lyme, N. H.; mem. Greenfield provis. militia, Spanish-Am. war; lawyer, Greenfield, Mass.

Charles Greenleaf Griffith, B. S.
e. f. Brooklyn. N. Y.; ch. eng. Montana Smelting Co.; Great Falls, Montana; min. eng., New York.

***Francis Zeno Kimball, B. S.**
b. Northfield, Vt.; prin. of schools in Ill.; d. Libertyville, Ill., 1889.

William Lemuel Steadman, B. S.
b. Lawrence, Mass.; capt. Bat. C., Mass. Light Art.; manufacturer; Lawrence, Mass.

***James Wheeler Swett, B. S.**
b. Bethel, Vt.; s. Rev. Josiah Swett, '37; prin. Rugby Academy; Wilmington, Del.; d. there 1876.

1873.

†Alvin Morton Bailey, B. S.
e. f. Montreal, P. Q.

Henry Augustus Burt, B. S.
b. Fairfield, Vt.; asst. eng. Burlington & Mo. R. R.; in Neb., Col. and Kan.; lawyer; Swanton, Vt.

***Frank Richard Bates, B. S.**
b. Northfield; lawyer; Northfield, Vt.; d. there 1883.

***William Ripley Dorr, M. S.**
b. Chatham, N. Y.; treas. and manager Horne & Danz Mfg. Co.; treas. Life Ins. Clearing Co.; pres. Stanton Gold Mining Co., Arizona; pres. board of trade, St. Paul, Minn.; broker, N. Y. city; d. 1904.

Paris Augustus Eastman, B. S.
b. Rutland, Vt.; man. stock farm; Mendon, Vt.

George Lemuel Huntoon, B. S.
b. Springfield. Mass; capt. Mass. Nat. Guard; jeweler, Boston, Mass.

Cyrus Moses Johnston, B. S.
b. Waitsfield, Vt; county attorney, Detroit City, Minn.

Harry Tudor Lyman, B. S.
b. W. Randolph, Vt.; cashier American Exp. Co; Manchester, N. H.

John Robert Moore, M. S., C. E.
b. Elizabeth, N. J.; asst. eng. N. J. Cent. R.R.; asst. eng. for New York city, N.Y.

Archie Lorenzo Sheldon, B. S.
b. W. Rutland, Vt.; machinery broker; New York.

Simeon Edson Belknap, 1869-71.
b. Northfield, Vt.; in business, Minneapolis, Minn.

Frank Foster Bennett.
b. Northfield, Vt.; eng.; Henderson, Texas.

Harry Warren Daniell.
b. Franklin, N. H.; gen. supt. Winnipesaukee Paper Co., Franklin, N. H.

†William Alanson Dyer Davis.
e. f. Rutland, Vt.

Charles Alexander Gregg, 1869-71.
b. Northfield, Vt.; employ Central Vt. R. R.; New London, Conn.

Fred Wallace Gregg, 1869-71.
b. Northfield, Vt.; A. B. Dart.; lawyer; firm Otis (N. U., '66) Gregg & Hall, San Bernadino, Cal.

George Wallace Metcalf, 1869-71.
b. Northfield, Vt.; merchant and ranchman, Douglass, Wyoming.

George John Spear, 1870-72.
b. Braintree, Vt.; hardware and nursery business, Greeley, Col.

***Benjamin Ball Newton, 1870-73.**
b. St Albans, Vt.; e. f. Brooklyn, N. Y.; ch. eng. Foxburg, St. Petersburg & Clarion (Pa.) R. R. 1877-90; supervisor of terminals Port Richmond, Phila., for Reading Ry.; 1st asst. supt. 1890—; 1st div. Pa, R. R. 1894—; d. Pueblo, Col. 1898.

1874

Charles Edward Field, B. S.
b. Greenfield, Mass.; employ Shipman White Lead Works; comptroller Nat. Lead Works; Chicago.

Robert Alexander Silver, B. S.
b. Northfield, Vt.; in business; Northfield, Vt.

Edward Denslow Upham, B. S.
b. Pittsfield, Vt.; cashier Charles W. Brenneman & Co.; Cincinnati, O.

William Herbert Best, 1870-73.
b. Northfield, Vt: employ Swift Bros., Chicago, Ill.

Edward Pancost Pitman, 1870-73.
b. Swanton, Vt.; accountant, Fishkill-on-Hudson, N. Y.

Franklin James Saxe, 1870-72.
b. St. Albans, Vt.; sec. and man. Export Lumber Co., New York.

Edward Taylor Smith. 1870-71.
b. Rutland, Vt; cashier Clement Nat'l Bank, Rutland, Vt.; sec. Page Woven Wire Fence Co., Mich.

D'Orsey Taylor, 1870-71.
b. St. Albans, Vt.; merchant St. Albans.

William Herbert Tucker. 1871-72.
b. W. Hartford, Vt.; merchant, White River Junction, Vt.

1876

George Edward Edson, M. S.
b. St. Albans, Vt.; lawyer; has made a specialty of geology and has one of the largest collections of minerals in Vt.; Address, St. Albans, Vt.

†*Theodore Chardavoyne McIlwaine, B. S.
Plattsburgh, N. Y.

Waldo Henry Richardson, B. S. (M. D.)
b. Boston, Mass.; M. D. Columbia; mem. New York School Board; physician. New York.

***William Moser Rumbaugh, C. E., A. M.**
b. Mt. Pleasant, Pa.; capt. Penn. Nat'l Guard; commandant N. U. 1880-86; Prof. civil eng. 1879-86; employ Western Electric Co. New York, d. there 1902.

George (Henry) Delbert Thomas, B. S., Ph. B.
b. Northfield, Vt.; editor Boston *Herald;* author; pres. "N. U." Alumni Assoc. Boston; Alumni trustee; alderman, Waltham, Mass.

Frank Clark Hatch, 1873-76.
b. Woodstock, Vt.; col. governor's staff, Arizona 1883-86; commis. for Arizona 1884-87; contractor and has constructed a large number of public works; manager Hotel Royalton, New York, N. Y.

Eben Barlow Jewell, 1872-73.
b. St. Albans, Vt.; ch. police, Dowagiac. Mich.; eng. in charge streets.

***John Kerswell Stearns, 1870-74.**
b. Skowhegan, Maine; extensive manufacturer of paint at Davenport, Iowa, where he died in 1890.

Arnold Thayer, 1872-74.
b. New York City; Paint mfgr., Maiden Lane, N. Y.; address Roslyn, N. Y.

1877.

Harry Christopher Dole, B. S., A. M.
b. Northfield, Vt.; journalist; Camden, N. J.

Burleigh Fulsom Spaulding, Ph. B., A. M.
b. Craftsbury, Vt.; 1st lt. Vt. N. G.; supt. of schools, Cass Co., N. D.; lawyer; mem. cong. Fargo, N. D.

Robert Manson Stephens, M. S.
b. Geneva, Ill.; merchant, Madison, N. J.

Horace Alonzo Clifford, 1874-76.
b. Lowell, Mass.; cashier North. Pacific R. R.; St. Paul, Minn.

William Russell Curtis, 1872-76.
b. Yarmouth, Me.; purser Pacific Coast Steamship Co. 1880—; address Port Townsend, Wash.

***David Bates Douglass, 1872-76.**
b. Waterloo, N. Y.; mfr. mill supplies, Phila.; d. Pomona, Cal, 1894.

Frank Gardner Flint. 1874-75.
b. Bellows Falls, Vt.; paper mfr., Bellows Falls, Vt.

†*William Tolman Sprague, 1873-75.
b. — ? e. f. Boston; supt. Bessemer Steel Works of the St. Louis Ore & Steel Co, So. St. Louis; d. there about 1890.

Henry Bates Thayer (A. B.)
b. Northfield, Vt.; vice-pres. Western Electric Co. and manager New York house; address, Bethune St., N. Y. city.

1878

Charles Horace Spooner, B. S., A. M., LL. D.
b. Charlestown. N. H.; maj. Cal. N. G.; commandant St. Augustine Coll. Benicia, Cal. 1879-81; inst. of mathematics and commandant Vermont Academy 1881-89; maj. V. N. G. 1888-89; prin. Fitchburg,(Mass.) public schools 1889-91; instructor and asst. in charge of second year class Manual training school,Wash. Univ., St. Louis, Mo., 1891-1904; pres. Norwich Univ. 1904—.

Benjamin Hale Douglass, (D. D. S.)
b. Waterloo, N. Y., D. D. S., Balt. Dent. Coll.; dentist, Boston, Mass.

Henry Bowman Douglass, (M.E.) 1874-76.
b. West Point, N. Y.; mining eng. Vinton Colliery Co., Vintondale, Pa.

Francis Douglass, 1872-76.
b. West Point, N. Y.; banker, Wilkesbarre, Pa.

***Frederick Earl Du Bois, 1874-76.**
b. Randolph, Vt.; banker; d. Randolph, Vt., 1903.

Edward Sprague Marsh, (A. B., LL. B.) 1874-78.
b. Brandon, Vt.; LL. B., Boston, Univ. 1882; lawyer, Brandon, Vt.

1879.

Eugene Merwin Carr, B. S. (L.L. B.).
b. —; e. f. Louisville, Ky.; L.L. B. Columbia, '81; brig.-gen. in command Washington, N. G.; lawyer; promoter, Seattle, Wash.

John Benjamin Johnson, C. E., A. M.
b. Montgomery, Vt.; professor of math. N. U., 1879-90; math. and civil eng. 1890-1901; *Emeritus* prof. math. and eng. Pasadena, Cal.

Charles Horace Spooner, A. B.
(See Class 1878.)

***William Franklin Baker, 1875-77.**
b. St. Johnsbury, Vt.; lawyer; d. Northfield 1883.

Archie Mead Batchelder, 1875-76.
b. Plainfield, Vt.; merchant and mfr. Plainfield, Vt.

1880.

Edward McClure Peters, B. S.
b. New York, 1860; commanded sailing vessel in So. American waters; lt. U. S. Navy, Span.-Am. war; vice-pres. N. U. Alumni Association of New York; supt. Chemical Tartar Co.; Brooklyn, N. Y.

Loomis Stevens Cull, 1873-78.
b. Waterville, Vt.; lawyer; county judge 1891-96; Hot Springs, S. D.

Harry Louis Fuller, 1876-78.
b. Worthington, Mass ; e. f. Florence, Mass.; draftsman C. B. & Q. R. R. Galesburg, Ill., 1878-79; div. eng. for U. S. Govt. on R. R. survey, promitory Utah to Helena, Mont., 1880-83; div. eng. Santa Fe R. R. 1883-84; min. eng. Leadville, Col., 1885-87; div. eng. Rock Island & Pacific R. R., 1887-89; asst. eng. Norwood Eng. Co. as cons. eng. on filter plant cons. 1890-91; in private practice 1892-94; ch. eng. Norwood Eng. Co., Florence, Mass., in hydraulic work 1895-1902; govt. eng., Canada 1902—; address, Amherst, N. S.

Frank Lee Howe, 1875-80.
b. Northfield, Vt.; capt. Co. K., 1st Vt. Vols. Span.-Am. war; maj. Vt. N. G.; marble and granite business, Northfield; trustee N. U.

Frank Henry Parker, 1874-79.
b. Northfield, Vt.; prop. City Drug Store, Burlington, Vt.

1881.

Frank Winslow Conn, C. E.

b. E. Randolph, Vt.; asst. eng. Texas Pacific R. R.; Silver city and Deming; Mexican Central; Guatimala Central; R. R. in Chile; Mont. & Wells River in Vt.; min. eng. & supt. Costa Rico; cons. eng. Transit Finance Co., New York City; mem. Am. Soc., C. E.

Henry Martin Jones, B. S.

b. Kingston, Mass.; mfr.; Kingston, Mass.

Charles Wright Mead, C. E.

b. Underhill, Vt.; asst. eng. Nat. Park branch N. P. R. R.; U. S. dep. mineral surveyor, Surveyor Madison Co., Mont., and supt. of roads and bridges, 1884-87; 1892-98; 1st lt. 1st Mont. Vols. Spanish American war; capt. U. S. Vols. Span. Am. war; city eng. Manila, 1901-1902; ch. eng. Canton-Hankow R. R. China; Canton, China.

Marshal Davis Smith, B. S.

b. Montello, Wisconsin; treas. N. U. gen. Alumni Assoc; in business and town representative, Northfield, Vt.

William Howard Wilmarth, B. S.

In business, No. Attleboro, Mass.

George Emmerson Dearing, 1878-80.

b. Bethel, Vt.; farmer E. Bethel has held many public offices, address Royalton, Vt.

†William Smith Maddock, 1876-78.

e. f. Brooklyn, N. Y.; pottery mfr., Trenton, N. J.?

David Terry Winton, 1878-81.

e. f. Bridgport, Conn.; editor, last address, Stamford, Conn.

1882.

George Taft Hobbs, B. S.

b. Uxbridge, Mass.; s. Geo. W. Hobbs, '58; civil engineer, Uxbridge, Mass.

Malverd Abijah Howe, B. S., M. S. (C. E.)

b. Northfield, Vt.; s. Asa Howe, '43; prof. civil engineering, Rose Polytechnic Inst., Terre Haute, Ind. 1887—; author several eng. text books.

Fred Elton Steele, B. S. (M. D.)

b. Northfield, Vt.; M. D. Hahneman Med. Coll.; physician; member Board of Visitors, N. U.; Montpelier, Vt.

Byron Thorp Carr, 1878-79.

b. Galesburg, Ill.; brother E. M. Carr, '79; train despatcher Cent. Pacific R. R.; supt. Oregon Ry. & Improvement Co., 1890-92; supt. St. Ry., Seattle, Wash.

Charles Marsh Davis (L.L. B.) 1878-79.

b. Northfield, Vt.; L. L. B. Boston Univ. '89; lawyer; mill owner, Northfield, Vt.

Clarence Eugene Randall, 1878-80.

b. Northfield, Vt.; s. Geo. C. Randall in class 1904; ch. train dispatcher B. & M. R. R., Woodsville, N. H.

1883.

James Michael Holland, B. S. (L.L.B.)

b. Northfield, Vt.; L. L. B. Univ. of Mich.; '85; lawyer and financier, New York City.

Wilbur Clark Howe, B. S.

b. Northfield, Vt.; brother F. L. Howe, '79; freight agent B. & M. R. R., Nashua, N. H.

George Roberts Miner, M. S.

b. Manchester, Vt.; editor New York Herald, Paris Edition; Sunday editor New York World; Sunday editor New York Herald; dramatic editor New York Herald, New York City.

Edwin Oscar Blanchard (D. D. S.) 1879-80.

b. Plainfield, Vt; D. D. S Bost. Dent. Coll.; dentist, Randolph, Vt.

***John Wesley Ramsay.**

b. St. Johnsbury, Vt.; asst. ed. various Vt. papers; ed. and pub. *Granite City Leader*, Barre, Vt 1892-95; U. S. inspector of customs, 1894-95; d. Richford, Vt., 1895.

Herbert Eugene Thayer, 1879-82.

b. Warren Vt.; teacher drawing; Warren, Vt.

1884.

Calvert King Mellen, M. S., A. M.

b. Richmond, Va.; 1st lt. 42d Sep. Co., N. Y. N. G.; commandant De Veaux Coll. 1889-96; prop. "Mellen School"; Buffalo, 1896-1900; prof. Mathematics, Central high school; Buffalo, N. Y.

Thomas Henry Nickerson, M. E.

b. Harrington, Maine; merchant; Athens, Ga.

Fred Silas Parker, B. S.

b. E. Putney, Vt.; lawyer, Ellendale, N. D. 1884-92; city judge W. Superior, Wis., 1894-98; mayor 1898-1900; lawyer W. Superior, Wis.

Ned Louis Sheldon, M. S., A. M.

b. Stockbridge, Vt.; master, W. Newbury, Mass. H. S., 1885-88; Norwood, H. S. 1888-90; sec. Sons of Vt. Assn.; lawyer, Boston, Mass.

Harry Denison Stewart, 1881-83.

b. Bangor; Maine; gen. pass. agt. Mt. Desert (Me.,) R. R. 1887—; sec. Eastern Ice Co.

1885.

Fred Rice Balknap, M. S. (M. D.)

b. Rochester, Vt.; M. D. Bellevue Med. Hosp.; studied in England and Germany; mem. state board of health, 1897; physician; Benton Harbor, Mich.

Myron Lemuel Chandler (M. D.) A. M.

b. Berlin, Vt.; commandant Mt. Pleasant Mil. Acad.; M. D., U. V. M. '91; physician; Barre, Vt.

Henry Blanchard Hersey, B. S.

b. Williamstown, Vt.; adj. gen. New Mexico, 1897-98; ranking maj. 1st Vol. Cavalry "Rough Riders"; U. S. Weather Bureau Inspector; Louisville, Ky., 1898-1904; Cornell Univ., 1904—; Ithica, N. Y.

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†Horace Ingersoll Bettis, 1882-83.

e. f. Salem, Mass.; asst. eng. B. & M. R. R; Eastern (Mass.) R. R. Thompson-Houston Elec. Co.

†Frank B—? Porter, 1881-82.

b. Calais, Maine.

1886.

Charles Herman Cheney, C. E.

b. So. Manchester, Conn.; 1st Inspector Galveston (Texas) Jetty Works; asst. eng. Galveston Ship Canal; prof. civil eng. "N. U." 1889-90; civil eng. Cheney Bros., Manchester, Conn.

Charles Henry Nichols, M. C. E.

b. Braintree, Vt.; asst. eng. Boston Bridge, Works 1888-90; asst. bridge eng. Boston & Providence R. R. 1890-92; asst. eng. Keystone Bridge Works, and had charge of cons. south side and west side Elevated R. R. Chicago, 1892-94; eng. for Milliken Bros., N. Y.; 1st asst. ch. eng. Post and Maccord Bridge Co.; ch. eng. Snare & Triest; Structural eng. Kirby, Petitt & Green; N. Y. City.

Earl Henry Prince. B. S. (L.L. B).

b. Roxbury; LL. B., Univ. of Mich. Law-School '89; mem. Chicago Board of Trade 1900—? grain Merchant, Chicago, Ill.

Phil Sheridan Randall, M. S.

b. Montpelier; s. Col. F. V. Randall, vice pres. "N. U."; lawyer; bank cashier; county judge, Ellensdale, No. Dakota.

Walter Evans Lewis, 1881-83.

b—; s. Col. C. H. Lewis '55; Architect, Boston, Mass.

†Rowland Wardwell Stewart, 1882-85.

b. Bangor, Maine; in business, Bangor, Maine.

1887.

Charles Edwin Austin, B. S., (D. D. S.)

b. Hancock, Vt.; D. D. S., Chicago Coll. of Dent. Surg.; dentist; Chicago, Ill.

***Ernest Victor Booth, M. S.**

b. Kent, Ohio; s. Rev. I. P. Booth, "Trustee" N. U.; civil eng.; Worcester, Mass., where he died in 1891.

Paris Moore Fletcher, B. S.

b.—; e. f. Woodstock, Vt.; salesman Western. Elec. Co., New York City 1890-1 00; manager, Burnett Co., Maiden Lane, 1902-04; in 1904 formed firm of P. M. Fletcher & Co., dealers in electrical goods; address, 32-34 Frankfort St., New York City.

Walter Edwin Hassam, C. E., M. S.

b. Northfield, Vt.; capt. 2d Mass. N. G. 1893-98; asst. city eng., 1888-1903; supt. streets, 1903—; Worcester. Mass.

***Frederick Tyler Edgerton, 1883-85.**

b. Norwich, Vt.; reporter and editor; d. Northfield, Vt., 1887.

1888.

Fred Thaddeus Austin, M. S., C. E.

b. Hancock, Vt.; Architect; Brockton, Mass., built many public buildings; "drum major" several New England Regiments, N. G.; Adj. 5th Mass. Vols. Span.-Am. War; 1st lt. Artillery Corps, U. S. A.

Harry Hale Goss, B. S.

b. Georgia, Vt.; Providence R. I.

Fred Farnham Hayward, B. S.

b. Tunbridge, Vt.; salesman, Prescott Piano Co., Concord, N. H. 1895-1904; Steinway Piano Co., Lowell, Mass. 1904—.

Luther Burnham Johnson, M. S.

b. Northfield, Vt.; editor; *Northfield News; Randolph Herald* 1898—; official reporter Vt. House of Representatives; address, Randolph, Vt.

William Alden Shaw, M. S.

b. Northfield, Vt.; U. S. Weather Bureau Observer; Boston; Portland; New York; Pierre, S. D.; Sioux City, Iowa; Northfield, Vt. 1896—.

William Orlando Belknap, 1884-86.

b. So. Royalton, Vt.; merchant, So. Royalton, Vt.

Nathaniel Reene Davis, 1883-86.

b.—; e. f. Northfield, Vt.; granite business in Montello, Wis.

Harry Symmons Denny (B. S.)

b. Northfield, Vt.; cadet 1885 Dec. 1887; in business, Jacksonville, Fla.

Pearl Lewis Ellis (D. D. S.) 1883-85.

b. Pittsfield, Vt., D. D. S. Univ. of Md.; dentist, Swanton, Vt. 1838-1903; address Randolph, Vt.

George Walter Gifford, 1884-85.

b. E. Bethel, Vt.; ranchman, near Los Angeles, Cal.

Jonathan Eugene Tinker.

b. Albany, Vt.; left N. U. to enter West Point in 1887; jeweler, Danville, Vt.

***Henry Truman Way, 1885-87.**

b. Hardwick, Vt.; d. of lock-jaw in 1887.

1889.

Fred Howe Clark, C. E.

b. Northfield, Vt.; asst. city eng.; Worcester, Mass.

George Herbert Cobleigh, B. L.

b. Northfield, Vt.; manufacturer; So. Northfield, Vt.

Herbert Nelson Cross, B. L.

b. Northfield, Vt.; lawyer; Springfield, Mass.

Eldridge Wheeler Gilman, C. E.

b. Marshfield, Vt.; mer.; Marshfield, Vt.

Robert Liston Irish, B. S., M. S. (M. D.).

b.—; e. f. Northfield, Vt.; M. D. Bellevue Med. Hosp., N. Y.; physician; New York City.

Elmer Roland Juckett, M. S.

b. Whitehall, N. Y.; lawyer; Co. atty., Fall River co., S. D., 1896-1900; co. judge, 1900-1904; attorney gen. state, S. D., 1904; address, Hot Springs, S. D.

***Fred Ellsworth Lamb, C. E.**

b. Pittsfield, Vt.; civil eng.; Boston, Mass.; d. Northfield, Vt., 1893.

William Ethel Terrill, M. S.

b. Underhill, Vt.; druggist and mfg. phar., 1892-1902; salesman; athletic manager N. U. ath. assoc.; address, Montpelier, Vt.

Aurin Ralph Shaw, M. S. (D. D. S.)

b. Northfield, Vt.; U. S. Signal Service; D. D. S. Northwestern Univ. Dent. Coll., '94; dentist; Rio de Janeiro, Brazil.

William Seth Prior, C. E., M. S.

b. Underhill, Vt.; asst. city eng., Worcester, Mass., 1892-97; st. com., 1897-1903; 1st lt. 2d Mass. N. G.; in business; Worcester, Mass.

Elmer Adelbert Aseltine, 1883-88.

b. Swanton, Vt.; prin. high school, Gobleville, Mich., 1890-97; school ex. Van Buren Co., 1895-1900; ins. business; Gobleville, Mich.

Fred Simeon Palmer, 1886-88.

b. Underhill, Vt.; U. S. Insp. of Customs; Chicago, Ill. 1891—.

1890.

Seth Burton Adams, C. E.

b. Albany, Vt.; asst. eng. Georgia Central R. R. 1890-91; consulting eng. Hartford Steam Boiler Inspec. and Ins. Co., 1891—, Phila. Penn.

Charles Edwin Collins, C. E.

b. Roxbury, Vt.; hydraulic eng. Locks & Canals Co., Lowell, Mass. 1890-92; 1st asst. eng. Pittsfield, Mass. 1892-95; cons. eng. Cambridge, Mass.; in charge of hydraulic work on Charles River 1895-96; city eng. St. Albans 1896-97; eng. and inspec. of bridge work B. & A. R. R. 1897; hydraulic eng. with F. L. Fuller on water works 1898-1900; hydraulic eng. office Phila. Pa. 1900—; assoc. mem. Am. Soc., C. E.

Homer John Dane, B. S.

b. Jericho, Vt.; grad. Ill. Coll. of phar. '92; hosp. Steward, Vt.; Vols. Span.-Am. War; druggist; Chicago and Northfield, Vt.; phar.; Northfield, Vt.

Herman Dressel, Jr., A. M.

b. New York City; prin. No. Bennington, (Vt.) H. S. 1891-95; supt. and prin.; Springfield, Vt. H. S., 1895-1903; Co. examiner; Windsor Co. 1896-1903; supt. schools Great Barrington, Mass. 1904—.

John Huntoon Judkins, M. S. (M. D.).

b. Prescott, Wis.; M. D. Balt. Med. Coll. '93; physician and druggist; Northfield, Vt.

†**Dexter Wadleigh Lewis, B. S.**

b. Brooklyn, N. Y.; s. Col. Chas. H. Lewis, '55; address, Taunton, Mass;

Ira Rich Mower, B. S.

b. Calais, Vt.; repres. Parke, Davis & Co., Georgia, Atlanta, Ga.

Charles Frederick Parker, C. E.

b. Northfield, Vt.; asst. eng. with John W. Ellis, Woonsocket, R I. 1891-95; asst. eng. in charge branch office B. &. M. R. R., Springfield, Mass. 1895-96; eng. in charge of location Revere Beach & Lynn R. R. 1896-97; civil eng. at Woonsocket, R. I. 1898—; has built up an extensive practice; at present eng. for an electric Ry., 55m. in length from New Bedford to Fall River, Mass.; address, Woonsocket, R. I.

1891.

George Franklin Abbott, C. E.

b. Northfield, Vt.; asst. eng. Boston Elevated Ry.; Boston, Mass.

George Langdon Ballou, B. S.

b.—; e. f. Bethel, Vt.; draughtsman, Berlin Bridge Works; dir. and sec., Geo. A. Just Co.; contracting eng., 452 Fifth Ave., N. Y., 1904—.

***Alfred Frederick Booth, C. E., A. M.**

b. Canton, N. Y.; asst. eng. with Chas. H. Cheney, So. Manchester, Conn., 1891-92; inst. Northfield High School, 1892-93; prin., 1893-94; grad. Canton, (N. Y.) Theolog. Sem., St. Lawrence Univ., 1896; pastor Univ. church, St. Albans, Vt., 1895-97; d. Northfield, Vt., 1898.

Heber Calvin Cady, C. E.

b. Northfield, Vt.; trustee "N. U."; ath. dir. "N. U." Ath. Assoc; has held many town offices; treas. Northfield Savings Bank.

Carl Gilman Dole, C. E.

b. Northfield, Vt.; s. Prof. Chas. Dole, '69; clerk, N. P. R. R., W. Superior, Wis., 1891-95; B & M. R. R., 1895-98; 2d lt. Co. F. 1st Vt. Vols., Span. Am. War; clerk P. O. Dept., Washington, D. C.

Burton Wiley Farnham, C. E.

b. Northfield, Vt.; asst. city eng., Lowell. Mass., 1891-1902; eng. with Chas. Collins, '90; 1902-04; asst. eng. New York Cen. R. R., 1904—; address, Chateaugay, N. Y.

Fred Miner Goodhue, C. E.

b Lowell, Mass.; asst. eng. Lock & Canal Co., Lowell, 1891-96; editor; civil eng., Lawrence, Mass.; asst. eng. U. S. Geolog. Survey, 1901-02; eng. for International Paper Co.; Broad St. New York City.

Clarence Bonnett Riggs, C. E.

b. Washington, D. C.; asst. eng. Bristol, (Vt.) R. R.; Black River, (Vt.) R. R.; located and built Saco Valley, (N. H.); ch. eng. New Rochelle, N. Y. water works; 1894-99; served with 8th N. Y. Vols Span. Am. War; inspector Rapid Transit commis., N. Y. 1899—; address, Woodlawn, New York City.

Ethan Allen Shaw, C. E., A. M.

b. Northfield, Vt.; inst. math. Randolph State Normal School, 1891-94; prin. Wells River, Vt. High School, 1894-95; Newbury Sem. 1895-97; prof. physics and drawing, "N. U." 1897-1903; math., 1903—; Northfield, Vt.

Edward Aiken Shuttleworth, C. E.

b. Boston, Mass.; 2d lt. U. S. A. '91; during railway riots in 1894, was commissary for all U. S. troops in city; 1st lt. 1898; ch. commis. on staff of Gen. Coppinger during Span. Am. War; capt. and qm. U. S. A.; founded "Shuttleworth" prize.

Percy Gates Smith, C. E.

b. Morrisville, Vt.; asst. eng. Southbridge, Sturbridge & Brookfield R. R.; asst. eng. Southbridge water works, and Mass. state roads, 1893-94; asst. city eng. Worcester, Mass., 1894-1903; mem. firm of Smith & Moore, gen'l eng's and sur., 44 Front St., Worcester, Mass., 1904—.

William Hibbard Sprague, B. S.

b. Chelsea, Vt.; mer., E. Brookfield, Vt., 1891-1904; law student, Chelsea, Vt., 1904—; sheriff, Orange Co., 1903—.

Harrison Gordon Woodruff, B. S.

b. East Brookfield, Vt.; collection clerk, Amoskeag Nat. Bank, Manchester, N. H. 1893-1902; cashier, Granite Savings Bank & Trust Co.; Barre, Vt., 1902—.

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†Homer Royce Chadwick, (D. D. S.) 1887-89.

b. Franklin Vt.; sergt. 1st Vt. Vols., Span. Am. War 1898; D. D. S. Bost. Dent. Coll., 1899.

Robert Alexander Child, 1887-89.

b. Bradford, Vt.; foreman, Lyndonville *Journal* 1891-1900; Tuttle Printing Co.; Rutland 1900-1904; Bradford *Opinion* 1904—.

Ralph Boynton Denny, 1887-88.

b. Northfield, Vt.; banker; sec. Union Mutual Fire Ins. Co.; Montpelier, Vt.

Charles Edwin Quimby, 1888-90.

b. Northfield, Vt.; asst. eng. Boston & Albany R. R.; ch. eng. for the Ludlow Mfg. Co., Ludlow, Mass., 1903—.

Henry Charles Sweeney, 1887-89.

b. Rutland, Vt.; editor and reporter; Rutland, Vt.

***Emerson Lafayette Young, 1888-90.**

b. Rutland, Vt.; orange shipper; Los Angeles, Cal.; d. there in 1900.

1892.

Ephraim Wesson Clark, C. E.

b. Peacham, Vt.; asst. eng. Boston Elevated Ry.; Boston; sec. Boston N. U.; Alumni Assoc., 1900—.

Joseph Spafford Craigue, C. E.

b. Amsden, Vt.; asst. eng. Boston Board of Surv., 1892-94; H. S. Adams, 1894-1902; mining eng. for G. B. Markle & Co.; Jeddo, Pa., 1902—.

Charles John Clement Evans, C. E.

b. Northfield, Vt.; asst. eng. with Post & McCord, New York City.

Robert Henry Perse Ford, C. E.

b. St. Albans, Vt.; pres. gen. Alumni Assoc. of N. U.; asst. chief eng. of Central Vermont R. R., St. Albans, Vt.

Jesse Benton Mowry, B. S.

b. Chepatchet. R. I.; cadet and inst. 1890-92; prof. nat. sci. Shaw Univ. 1894-95; instructor Botany Leonard School of Pharmacy; Raleigh N. C,, 1895-1900; in business, Chepatchet, R. I., 1900—.

Charles Warner Pierce, B. S., A. M.

b. Manchester, Vt.; editor of *the Herald*, Northampton, Mass.

Edmund Henry Ryan, B. S.

b. Northfield, Vt.; civil eng. and lawyer, Monticello, Utah.

DeWitt Clinton Webb, C. E.

b. Granville, Vt.; asst. eng. Central Vt. R R., 1892-93; instructor N. U., 1894-95; en.g. with H. S. Adams; Boston, 1895-1903; and had charge of important work; civil eng. U. S. Navy, League Island Navy Yard, Phila., Pa., 1904—.

Benjamin Whitney Gleason, B. S. (M. D.).

b. Brookline, Mass.; M. D. Univ. of Pa., 1900; physician, Phila., Pa.

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Isadore Nelson Lunderville, 1887-89.

b. Enosburg Falls, Vt.; hotel manager, Littleton, N. H.

Erasmus Arlington Pond (M. D.) 1888-90.

b. Rutland, Vt.; M. D. Univ. of Vt. '96; pitcher, Baltimore team Nat'l. League, 1896-98; surg. U. S. A.; pres. Board of Health, Island of Panay, P. I.

1893.

George Leslie Andrews, B. S.

b. Northfield, Vt.; phar.; Pasadena, Cal.

Edward Cushman Bennett, B. S.

b. Bennington, Vt; grad. Bost. Univ. Law School, 1898; attorney at law, Bennington, Vt.

Eben Watson Gaynor, M. S. (D. D. S.).

b. Boston, Mass.; D. D. S.; Balt. Dent. Coll., '98; dentist; Boston, Mass.

Frank Albert Gokey, B. S.

b. Washington, Vt.; in business at Everett, Mass.

Frank Dudley Holbrook, C. E.

b. Boston, Mass.; eng. Brockton, Mass., 1893-95; asst. eng. Holbrook, Cabot & Daly Con. Co., 1895-1900; civil eng. with U. S. Eng. Corps; address, Newport, Vt.

Wilbur Dudley Hurlbut, C. E., M. S. (L.L. B.).

b. Georgia, Vt,; prin. Northfield High School, 1894-96; L.L B. Univ. Mich., '99; lawyer Omro. Wis.

Frank Alden Manuel, C. E.

b. North Troy, Vt.; mfr., Richford, Vt.

Hiram Nathaniel Mattison, B. S.

b. So.Shaftsbury, Vt.; town representative; cashier National Bank; Chelsea, Vt.

Oren Luther Pease, B. S.

b. Hartford, Vt.; pharmacist; Hartford, Conn.

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Flyn Guernsey Austin, 1889-90.

b. Rochester, Vt.; sergt.-maj. 1st Vt. Vols. Span. Am. War; ch. estimating dept.. Western Elec. Co.; New York City.

George Frederick Bailey, 1889-91.

b. Hyde Park, Mass.; 1st sergt. Co. F. 1st Vt. Vols. Span. Am. War; engaged in freight transportation in the Klondike, 1897-98; 1st lt. 2d U. S. Cav.; Manilla, P. I.

George Louis Harwood, 1889-92.

e. f. Bennington, Vt.; druggist; Chester, Vt.

George Griswold Hinsdale.

b. St. George, Vt.; Employ Champlain Trans. Co., Burlington, Vt.

Russell William Porter, 1889-90.

b. Springfield, Vt.; Grad. M. I. T. '95; with Cooke expedition to Greenland in 1894; surveyor and photog. Cornell-Tech. expedition to Greenland, under Lt. Peary in 1895.

1894.

Leo Bertram Clogston, C. E.

b. Fair Haven, Vt.; Boston Elevated R. R.; Boston, Mass.

Ernest Willard Gibson, A. M.

b. Londonderry, Vt.; prin. Chester, (Vt) H. S., 1894-98; Alumni trustee N. U., Capt. Co. I. V. N. G.; attorney at law; Brattleboro, Vt.

Harvey Levi Hinman, C. E.

b. No. Strafford, N. H.; railway mail service, Coos, N. H.

Howard Clinton Holden, C. E.

b. Barre, Vt.; asst. eng. B. & M. and Boston Revere Beach & Lynn R. R.; and had charge of location of road at Revere Beach; division eng. Massachusetts Highway Commission, Boston, Mass.

Leroy Chittenden Hulburd, C. E.

b. Brasher Falls, N. Y.; asst. eng. with S. Morgan Smith Co., York, Pa.; Dunwoody, Ga.

James Ernest Ross, C. E.

b—; e. f. Ellendale, N. D.; insurance surveyor, Sanborn Map Co., New York City.

Raymond Underwood Smith, C. E.

b. Wells River, Vt.; attorney at law, Wells River, Vt.

***George Eber Storrs, B. S.**

b. Island Pond, Vt.; prin. Whitcomb High School, Bethel, Vt., 1894-95; d. Bethel, Vt., 1895.

Hal Holmes Stearns, C. E.

b. Stockholm, N. Y.; insurance suveyor, Sanborn Map Co., New York City.

***Harlan Badger Wasson, C. E.**

e. f. Methuen, Mass.; civil eng.; with Mass. highway commission; d. Boston, Mass., 1901.

Clarence Henry Booth, 1890-92.

b. Canton, N. Y.; s Rev. I. P. Booth; employ Central Vt. R. R., Northfield, Vt.

Lester Hadley Bradley, 1891-93.

b—; e. f. Allion, N. Y.; draftsman, Remington Rifle Works, Allion, N. Y.

Charles Oscar Morrill, 1891-92.

b. Cabot, Vt.; pharmacist, St. Louis, Mo.; where he died in 1899.

William Haselton Rollo, 1890-93.

b. St. Albans, Vt.; in business Denver, Colo.

***Charles Reynolds Rudd, 1890-91.**

b. Illion, N. Y.; d. at Northfield in 1891.

Herbert Livingston Sweet, 1890-91 (L.L. B.).

e. f. Alburgh Springs, Vt.; L.L. B. Columbian Univ. (now Geo. Washington Univ.,) Washington; D. C.; lawyer; Oshkosh, Wis.

George Duff Whiteside (M. D.)., 1890-94.

b. Vergennes, Vt.; M. D., U. V. M. '99; phys.; Orange, N J.

1895.

Edgar Fletcher Carruthers, B. S.

b. Bellows Falls, Vt.; insp. Barber Asphalt Paving Co.; New York City.

Charles Horace Davis, C. E.

b. Northfield, Vt.; civil eng. with A. W. Woods, civ. eng. and contractor; Worcester, Mass.

Fred Carnot Davis, C. E.

b. Northfield, Vt.; asst. eng. Metropolitan Water Board, Boston, Mass., 1895-1904; asst. eng. U. S. Reclamation Service, 1904—; address, Northfield, Vt.

Frank James Donahue, C. E.

b. Northfield, Vt ; insurance surveyor; Sanborn Map Co.; New York City.

Ray Storrs Dowe, B. S.

b. Sycamore, Ill.; s. Roswell Dowe, '49; Ry. mail service; Somerville, Mass.

Walter George Huntley, M. S. (D. D. S.).

b. Northfield, Vt.; D. D. S. Balt. Dent. Coll., '98; dentist and merchant; Northfield.

Philo Remington Hoefler, M. S.

b. Illion, N. Y.; sec. Colorado Type Writer Exchange; sec. Granville Mining Co.; Denver, Col.

Harry Chester Mosely, B. S.

b. Northfield, Vt.; capt. Co. F., V. N. G.; merchant; Northfield.

Bert Henry Prior, C. E.

b. Underhill, Vt.; asst city eng., Worcester; Mass., 1895-98; asst. st. commis, 1898-1900; civ. eng.; Worcester, Mass.

Michael John Ryan, C. E.

b. Northfield, Vt.; asst. eng. Boston Elevated Ry.; Boston.

Fred Barnes Thomas, M. S.

b. Stowe, Vt.; capt. Co. H. Vt. N. G.; lawyer; Montpelier, Vt.

Samuel Adrian Thomas, C. E.

b. Stowe, Vt.; insurance surveyor, Sanborn Map Co.; New York City.

Dean Clyde Warren, C. E.

b. Stowe, Vt.; asst. eng.. Metropolitan Water Board, 1900-1903; div. eng. Mass. highway commission, 1903; asst. eng. New York Rapid Transit commission; in charge of tunnel construction work, 1904—; address, 4 Court Square, Brooklyn, N. Y.

George Donnelly, 1891-93.

b.—e. f. Bennington, Vt.; musician; Boston, Mass.

John Albert Holmes, 1891-92.

b. Holyoke, Mass.; asst. eng. Boston Board of Survey, 1893-95; asst. city eng. Somerville, Mass , 1895-96; park dept. Cambridge, 1896-1902; supt. parks, 1902-1903; asst. eng. Charles River Basin, 1904—; mem. Bost. Soc C. E.; address, 57 Adams St., Somerville, Mass.

1896.

Arthur Gilbert Andrews, C. E. (L.L. M.).

b. Roxbury, Vt.; LL. M., Geo. Washington Univ.; attorney at law, New York City.

James Leland Averill, C. E.

b. Montpelier, Vt.; asst. eng. Berlin Bridge Co.; computor, Milliken Bros., N. Y.; pres. Hudson Structural Co., Jersey City, N. J., New York City.

George Horace Briggs, C. E.

b. Northfield, Vt.; asst. eng., Cambridge Mass., 1896-1900; asst. eng. Metropolitan water board, West Boylston, Mass.

Charles Sargent Carleton, C. E.

b. Portland, Maine; eng. with S. D. Warren & Co., 1900; Westbrook, Maine, 1896-1900; capt. 1st Me. Vols. Span.-Am. war, 1898; prof. field eng. and drawing, Norwich University, 1900—.

Herbert Sawyer Clark, C. E.

b. Northfield, Vt.; asst. st. commission, Worcester, Mass., 1900-1903; civil eng. with Chas. Parker '90, on railroad work, 1904; eng. in charge of Elec. Ry. cons. in R. I., 1904—; address, Lime Rock, R. I.

John Leslie Collins, C. E.

b. Northfield, Vt.; asst. eng., Cambridge, Mass., 1896-1900; mem. firm. Collins Bros.; engs. and contractors; 1900-1903; eng. and contractor, office Albany, N. Y.; civil and hydraulic eng.; Albany, N. Y., 1904—.

Harry Ray Dole, B. S.

b. Northfield, Vt.; s. Charles Dole, '69; sergt. 1st Vt. Regt. Span.-Am. War; capt. V. N. G.; with Pike Mfg. Co., Pike, N. H.

Phil Sheridan Howes, B. S.

b. Northfield, Vt.; corp Co. F. 1st Vt. Vols. Span.-Am. War; with National Life Ins. Co., Montpelier, Vt.

Edward Michael McCarthy, B. S.

b. Northfield, Vt.; Student College Physicians and Surgeons, Boston, Mass.

Charles Albert Plumley, A. M.

b. Northfield, Vt.; capt. V. N. G.; asst. clerk Vt. House of Representatives; mem. firm Plumley & Plumley, lawyers, Northfield, Vt.

Carroll John Scribner, C. E.

b. Cady's Falls, Vt.; eng. Bridge Department C. V. R. R., St. Albans, Vt.

Leon Anson Skinner, B. S.

b. So. Royalton, Vt.; in business. So. Royalton, Vt.

Herbert Eugene Caswell, B. S.

b. Milton, Vt.; principal of schools, Quechee, Vt.

William Preston Beauclerk (M. D) 1892-94.

b. Troy, Vt.; M. D. U. V. M. '96; Physician, Concord, N. H.

Charles Howard Brooks, 1891-95.

b. Northfield, Vt.; phar., Boston, Mass.

William Granville Brooks.

b. Northfield, Vt.; phar., Boston, Mass.

Arthur Hall Cushman, 1892-94.

b. No. Bennington, Vt.; mfg., No. Bennington; in charge of Western Dept. of his company; Chicago, Ill.

1897.

Winifred Ballard Carr, C. E.

b. Georgia, Vt.; asst. eng. Metropolitan Park Commis., Boston, 1897-98; U. S. Coast Survey, 1898; 2d lt. U. S. Art., 1898; capt. Art. Corps, U. S. A.; Fort Slocum, N. Y.

Henry Vail Dunham, B. S., D. Sc.

b. Worcester, Vt.; head chemist, Casein Co., of America, 1898—; manager European business, 1902-03; gen. manager, 1904—; Bellows Falls, Vt.; gen. manager, Casein Co., of America; Bellows Falls, Vt.

William Arba Ellis, B. S., A. M.

b. Granville, Vt.; insurance surveyor, Sanborn Map. Co.; Commandant Kirkwood, (Mo.) Military Academy, 1899-1900; librarian, Norwich Univ., 1902—.

†William Clarence Spafford, B. S.

b. No. Bennington, Vt.; 2d lt. Co. K., V. N. G., 1898; served with Vt. Vols. Span. Am. War, died at Chickamauga, Ga., of disease contracted in service; No. Bennington, Vt.

Donald William Sutherland (A. B.) B. S.

b. Drummondville, P. Q.; A. B. Bishop Coll., Canada; civ. eng.; Drummondville, P. Q.

Charles Ernest Walker, B. S.

b. Cumberland Mills, Me.; 1st lt. U. S. Vols., Signal Corps. Span. Am. War; chemist Oxford Paper Co.; Rumford Falls, Me.

Louis Phillip Booth, 1893-95.

b. Long Island, N. Y.; s. Rev. I. P. Booth; photographer, Providence, R. I.

Walter Egbert Brown, 1892-96.

b. Williamstown, Vt.; manager branch yard for Vermont Marble Co.; New York, N. Y., 1899-1905; mer.; Northfield, Vt.; 1905—.

William Emmerson Clogston, 1893-95.

b. Royalton, Vt.; phar. and prop. drug store; Boston.

Guildford Henry Hill, 1893-97.

b. East Fairfield, Vt.; address, E. Fairfield, Vt.

1898.

Edwin Booth, A. B.

b. Morrisville, Vt.; bank clerk, Morrisville, Vt.; 1898-1903; sec. Powder Co., Wilmington, Del., 1903—.

Lewis Charles Bump, B. S.

b. Leister, Vt.; mfgr., Brandon, Vt.

James Wilber Cook, B. S.

b. Berlin, Vt.; chief output dept., Western Electric Co., New York.

Frank Winslow Dennison, B. S.

b. Northfield, Vt.; asst. eng. Rutland R. R., 1899-1903; civil eng., Northfield, Vt.

Paul Addison Dinsmoor, B. S.

b. Lawrence, Kan.; lawyer; priv. sec. to J. D. Bowersock, M. C., from Kansas, Washington, D. C.

Charles Edward Duggan, B. S.

b. Northfield, Vt.; civil eng.; with Chas. Collins '90; Northfield, Vt.

George Harold Ellis, M. A.

b. Granville, Vt.; post grad. work at Clark Univ., 1902-3; prin. High School, Chester, Vt., 1903-4; employ Sanborn Map Co., New York City; 1904—.

Leonard Joel Parker, B. S.

b. Northfield, Vt.; asst. eng. with Chas. F. Parker, ('90) civil eng. and contractor, Woonsocket, R. I.

George Everett Talbot, B. S.

b. Athol, Mass.; asst. eng. Park Dept., N. Y. City.

Arthur Ellsworth Winslow, C. E.

b. Berlin, Vt.; instr. eng. dept. Rose Polytechnic, Terre Haute, Ind., 1898-99; asst. eng. Vandalia Line R. R.; in charge of resurvey of road, 1899; asst. eng. Everett, Mass., 1900; prof. civil eng. Norwich Univ., 1900—; C. E. Thayer School Dart., 1903.

Hiram Addings Bearss, 1894-96.

b. Peru, Ind.; raised vol. Co. for Span-Am. War, 1898; 2d lt. U. S. M. C.; capt. 1903; has had entensive service in Cuba, Phillippine Islands and Panama; home address, Peru, Ind.

Roy Atwood Bullock, 1894-96.

b. Berlin, N. H ; clerk, Northfield, Vt.

George Douglass Evans, 1894-97.

b. Northfield, Vt.; corp. Co. F. 1st Vt. Vols. Span. Am. War; express messenger, Bellows Falls, Vt.

Nathan Allen Goodspeed, 1894-96.

b. Montgomery, Vt.; left N. U. to enter West Point; grad. 1902; 2d lt. 3d U. S. Cav ; Fort Assinniboine, Mont.

Joseph Howard Ladd (M. D.) 1894-96.

b. Roxbury, Vt.; M. D. Dart. Med. Coll., 1900; physician; Beverley, Mass.

Charles Robert Maxwell, 1894-96.

b. Fayston, Vt.; teacher; student Columbia Teachers Coll. 1903—; address, Waitsfield, Vt.

1899.

Frank Leroy Aldrich, B. S.

b. Northfield, Vt.; asst. eng. Addit. Water Supply Commis, New York City. 1902-03; insurance surveyor, Sanborn Map Co., 1904—.

Hezekiah Kibbe Brooks, B. S.

b. St. Albans, Vt.; ch. Chemist, Casein Co., of Am.; Bellows Falls, Vt.

Charles Horace Eaton, B. S.

b. Roxbury, Vt.; asst. eng. Guayaqui & Quito R. R.; Ecuador, So. Am.

George Prentiss Lovell, B. S.

b. Alfred, Me.; insp. Boston & Albany R. R.; asst. eng. New York Central R. R., N. Y. City, 1904; eng. N. Y. Fire Insurance Ex., New York, 1904—.

John Pool Mosely, B. S.

b. Northfield, Vt.; commandant, Norwich Univ., 1900; insurance surveyor, Sanborn Map Co.; N. Y. City.

Fred Aldrich Webster, B. S. (D. O.)

b. Northfield, Vt.; D. O. Bost. Coll. of Osteopathy, 1902.

Leon Bernard Allen (M. D.), 1894-96.

b. Brookfield, Vt.; M. D., U. V. M., 1900; physician, Post Mills, Vt.

Chester James Hurlbut (M. D.) 1894-96.

b. Georgia, Vt.; M. D., U. V. M., 1900; physician, Omro, Wis.

***John Lewis Tupper, 1895-96.**

b—; e. f. Bradford, Vt.; Bugler Co. K. 1st Vt. Vols.. and d. of disease contracted in service.

1900.

Sanford Harris Ashley, B. S.

b. Milton, Vt.; asst. eng. Chicago, Milwaukee & St. Paul R. R., Chicago, Ill., 1901-03; locating eng., Chicago & Alton, 1903-04; Pa. R. R., 1904-05; New York City.

Richard George Rich, B. S.

b. Manchester, Conn.; Corp Co. F. 1st Vt. Vols. Span.-Am. War; insurance business, So. Manchester, Conn.

Jeffers Foster Richardson, B. S.

b. Stockbridge, Vt.; sec. Granite Co., Milford, Mass., 1902-04; in business, Albany, N. Y.

Harold Samuel Richmond, B. S., (C. E.)

b. Northfield, Vt; Draftsman Boston Bridge Co.; Bridge Designer, B. & M. R. R., Boston, Mass., Malden, Mass.

Berton William Sibley, B. S.

b. Westford, Vt.; 1st Lt. U. S. Marine Corps; home address, Essex Junc., Vt.

Bert Frank Allen, 1898-98 (D. D. S.)

b. Roxbury, Vt.; D. D. S. Balt. Dent. Coll.; dentist, Northfield, Vt.

William Driscoll, 1896-98.

b.—; e. f. Greenfield, Mass.; asst. eng. Ill. Central R. R., Louisville, Ky., 1900-02; Gulf & Ship Island, 1902—; Gulfport, Miss.

Ralph Wales Dunsmoor (B. S.) 1896-99.

b. Northfield, Vt.; B. S. Dart., 1901; in business, Montpelier, Vt.

Mark Leonard Poor, 1896-98.

b. Stowe, Vt.; address, Stowe, Vt.

Frederick Fullerton Willey, 1896-97.

b. Chester, Vt.; address, Chester.

Everett Howard Field, 1897-99.

b. Feb. 4, 1872; e. f. Guildford, Vt.; from Dart. Coll., in soph. class.

Charles Hobart Grant, 1897-99.

b. June 12, 1874; e. f. So. Ryegate, Vt.; granite mfg.; So. Ryegate, Vt.

1901.

Fred Thompson Bass, B. S.

b. Randolph, Vt.; draftsman, American Bridge Co., Brooklyn, 1901-03; asst. eng. Post & McCord, structual engs., New York City, 1904—; Flushing, L. I.

Dean Orris Carr, B. S.

b. Georgia, Vt.; asst. eng. Pennsylvania R. R., 1902-04.

Louis Franklin Chamberlin.

b. Newbury, Vt.; draftsman, Berlin Bridge Works; Berlin, Conn., 1901-02; Riter-Conley mfgr. Co., Pittsburg, 1902-04; Post & McCord, New York City, 1904—.

Harry Guy Clark, B. S.

Civil eng. and mem. firm Seymour, Clark, Hills Co.; engs. and contractors, Springfield, Mass.

Irving Clendenen Ellis, B. S.

b. Bucksport, Maine; Ellis' Granite Works; Northfield, Vt.

Carl Danforth Hazen, B. S.

e. f. Worcester, Mass.; asst. eng. Pa. R. R., Pittsburg, Pa.

Leonard Melvin Newton, B. S.

Olcott, Vt; asst. eng. Pa. R. R. 1901-04; N. Y. Central, 1904—; Buffalo, N. Y.

William Everett Robertson, B. S.

Chemist; Chilton Paint Co., N. Y., 1901-03; Boston El. R. R., 1903-04; asst. to the supt. of the Vermont Power & Mfg. Co., St. Albans, Vt., 1904—; St. Albans, Vt.

Charles Edward Wheatley, B. S.

b. Montpelier, Vt.; 1st Lt. Artillery Corps, U. S. A., home address, Montpelier, Vt.

Douglas Munroe Barclay.

b—Dec. 20, 1881; e. f. Barre, Vt., Sept. 28, 1893; s. Wm. Barclay; discharged 1899.

George Henry Clarke, 1898-99.

b—Nov. 7, 1881; e. f. Enfield, N. H.; sergt. 1st N. H. Vols. Span.-Am. War; Bugler U. S. Art.

George Dana Murch, 1897-99.

b—Feb. 13, 1880; e. f. Lyndonville, Vt.; U. S. Ry. Mail Clerk, Troy, N. Y.

Norbert Vincent Mullin, 1897-98.

b. — Jan. 22, 1880; e. f. Worcester, Mass.; student Univ. Pa. Med. Coll.

Jesse Albert Pittsbury, 1897-1900.

b. — Nov. 29, 1881; e. f. Essex, Vt.

William Steele Pingree, 1897-1900.

b. — Nov. 15, 1880; e. f. Hartford, Vt.; discharged end of junior year; student Boston Univ. Law School, 1900-1903; lawyer, White River Jct., Vt.

James Macomber Wardner, 1897-98.

b. — March 22, 1879; e. f. Rainbow, N. Y.; sergt. 1st N. H. Vols. Span. Am. War; hospital steward U. S. A., 1900.

George Frank Waugh.

b.—e. f. Lowell, Mass.; sergt. Mass. Vols. Span.-Am. war; left N. U. to enter West Point.

1902.

Leon Frank Booth, B. S.

b. Northfield, Vt.; manager Produce Exchange, Rockland, Mass.

Frank Henry Burr, B. S.

b. Bellows Falls, Vt.; 2d lt, 3d Infantry, U. S. Army.

Henry Albert Chase, B. S.

Instructor in chemistry Norwich Univ., 1902—.

Willard Lynn Fuller, B. S.

b. Essex Jct. Vt.; civ. eng., Baltimore & Ohio R. R. 1902-04; asst. eng. Deep River R. R., W. Va., 1904—; Deep River, W. Va.

Harry Mansur Hobson, B. S.

b. Brighton, Vt.; draftsman, Am. Bridge Co.,1902; transitman, West Side Coal Belt R. R., Pittsburg, Pa., 1902-03; Ill. Cent. R. R. in Miss., 1903; min. eng. private practice, 1904; asst. eng. Toledo, St. Louis & New Orleans, 1904—; address, Carmi, Ill.

Timothy Holland, B. S.

b. Northfield, Vt.; insurance surveyor, Sanborn Map Co., New York City.

Robert Truman Phinney, B. S.

b. Montpelier, Vt.; 2d lt. 12th Infantry, U. S. Army; Montpelier, Vt.

John Theodore Smith, B. S.

b. Russell, N. Y.; asst. city eng. 1903-04; supt. Chas. R. Loucks Lumber Co., Cranberry Lake. N. Y., 1904; Saranac Lake, N. Y.

Lawrence Bernard Stebbins, B. S.

b. Northfield, Vt.; asst. eng. with Chas F. Parker, '90; Woonsocket, R. I.

Frank Strong, B. S.

b. Philadelphia, Pa.; asst. eng. Penn. Penn. R. R., Pittsburg, Pa.

Guy Henry Watson, B. S.

b. Lyndonville, Vt.; instrument man. Boston & Albany, 1902-4; asst. eng. Penn. R. R. 1904-05; res. eng. Bethel (Vt.) Quarry R. R., 1905—; Bethel, Vt.

Benjamin Brooks.

b.—Jan. 31, 1878; e. f. Oldtown, Me; s. Jacob Brooks; discharged 1898.

George Benjamin Jonathan Edwards, 1898.

b. Northfield, Vt., Sept. 22, 1878; s. Geo. Edwards; farmer, Northfield, Vt.

Adelbert Anson Hutchinson, 1899-1900.

b.—Aug. 9, 1880; e. f. Northfield, Vt.; supt. of cons. for Old Colony Elec. Ry. Co., Mass.; address, Brockton, Mass.

Charles Wesley Hawksworth, 1898.

b.—April 19, 1878; e. f. Newton, Mass.; priv. U. S. A.

Henry Ward Orser, 1898-1900.

b.—Sept. 30, 1879; e. f. Newbury, Vt.; bank clerk, Northfield, Vt.

Martin William Peck, 1898-1900 (D. O).

b—Dec. 14, 1880; e. f. Montpelier, Vt.; D.O., Kirksville, Mo. Coll. of Osteopathy.

Arthur Pettigrew Quimby, 1898-1900.

b—April 26, 1878; e. f. Lyndonville, Vt.

***Alfred Swenson, 1898-1900.**

b—Oct. 5, 1881; e. f. Wellesley, Mass.; d. 1903.

George Edward Thomas, 1898-99.

b. Stowe, Vt.; Aug. 28, 1879; brother S. A. Thomas '95; insurance surveyor; Sanborn Map Co., N. Y. City, 1900—.

1903.

Arthur Garfield Baker, B. S.

b. Northfield, Vt.; instrument man, city eng. office, Fitchburg, Mass., 1903-04; insurance surveyor, Sanborn Map Co.; New York, 1904—,

Ernest Stearns Ball, B. S.

b.—; draftsman, Riter-Conley mfgr. Co., Pittsburg, Pa., 1903-04; Post & McCord, N. Y., 1904—.

Bertrand Dorr Barker, B. S.

b. Poultney, Vt.; asst. eng. U. S. Coast and Geodetic Survey; Colonial Beach, Va.

John Henry Byrd, B. S.

b.—; draftsman, Riter-Conley mfgr. Co., Pittsburg, Pa., 1903-04; Post & McCord, New York, 1904—.

Elroy Albert Chase, B. S.

b. Northfield; draftsman, Cross Bros. Granite Works, Northfield, Vt.

Gilbert Clarence Eastman, B. S.

b. Milford, Mass., civil eng. for Milford, Mass.

Robert Burns Farquharson, B. S.

b—2nd Lt. U. S. Marine Corps; Washington, D. C.

Kemp Russell Blanchard Flint, B. S.

b. Montpelier, Vt.; with Sherburne and Flint, Montpelier, Vt.

John Harold Foster, B. S.

e. f. Waltham, Mass; Post Graduate Work in Chemistry, M. I. T., Boston; Waltham, Mass.; inst. high school, Groton, Mass, 1904—.

Samuel Leslie Fuller, B. S.

Draftsman, Riter-Conley mfgr. Co., Pittsburg, Pa.,; draftsman, G. B. Markle Coal Co., Jeddo, Pa., 1904—:

Emilio Guerra y Giro, B. S.

b. Santiago de Cuba; instrument man with Eduardo J. Chibas, mem. Am. Soc. C. E., Santiago de Cuba.

Fritz Louis Metzger, B. S.

b. Rutland, Vt.; asst. eng. Wabash R. R., Fairmount, W. Va.

Stanley John Parsons, B. S.

b. Walcott, Vt.; draftsman, Riter-Conley mfgr. Co., Pittsburg, Pa., 1903-04; asst. eng. Western Md. R. R., 1904—; Cumberland, Md.

Harry A. Peabody, B. S.

b. Chester, Vt.; asst. eng. on Electric Ry. with Chas. F. Parker '90.; home address, Chester, Vt.

John Tinney Powers, B. S.

b. Bennington, Vt.; transitman, N. Y. Central R. R., 1903-04; insurance surveyor, Sanborn Map Co, New York, 1904—.

Marshall Morrill Stocker, B. S.

b. Danville; town representative, surveyor, Danville, Vt.

***Robert Lee Wilkins, B. S.**

Law student, Univ. Mich.; Ann Arbor, Mich.; Viroqua, Wis.; d. 1904.

Allan Rawson Williams, B. S.

b. Jericho, Vt.; draftsman Wabash R.R. Fairmount, W. Va., 1903-04; asst. eng. C. V. R. R. on Bethel, Vt., Quarry R. R. 1904; 2nd Lt. 24th Inft. U. S. A.; 1905; home address, Jericho, Vt.

Seth Williams, B. S.

b. Foxboro, Mass.; 1st Lt. U. S. Marine Corps, Phillipine Islands; permanent address, Foxboro, Mass.

William Marsh Anderson.

b.—Jan. 27, 1881; e. f. Northfield, Oct. 4, 1899; s. Rev. A. W. C. Anderson.

Daniel Black Burnette.

b.—Jan. 29, 1881; e. f. Jersey City, N. J. in 1899; served in U. S. Vol. Sig. Corps, Span. Am. War; served in Alaska with U. S. Signal Corps, 1903-05; address, Jersey City, N. J.

James Squire Brownell,.

b. Nov. 21, 1879; e. f. Woodstock, Vt., in 1899; s. W. H. Brownell; druggist, Woodstock, Vt.

Harry Knights Briggs.

b.—May 22, 1878; e. f. Athol, Mass., in 1899; s. Chas. M. Briggs; address, Athol, Mass.

Richard Fleming Barker, 1899-1902.

b.—Aug. 13, 1881; e. f. Bellows Falls, Vt.; employ Casein Co. of Am. at Adams, N. Y., 1903.

Robert Arthur Bletzer, 1899-1900.

b.—Aug. 10, 1880; e. f. Jamaica Plain, Mass.; in business, Springfield, Mass., 1903—.

Herman Baker Chase, 1899-1900.

b. May 26, 1881; e. f. Hyannis, Mass.; address, Hyannis.

Albert Bayley Chamberlin, 1899-1901.

b.—Jan. 12, 1884; e. f. Newbury, Vt.

Arthur John Dunton, 1899-1900.

b.—Dec. 28, 1881; e. f. Lyndon Center, Vt.; s. Silas Dunton; address, Lyndon, Vt.

Frank Steele Drawn, 1899-1900 (B. S.)

b. New York, N. Y., July 11, 1879; e. f. Boston, Mass.; corp. 1st Reg. Mass. Coast Art., 1902—; spec. agent U. S. Dept. of Commerce and Labor, 1903—; address, 67 Tillston Ave., Mattapan, Mass.

William Reynolds Farrington, 1899-1900.

b.—Jan. 1. 1881; e. f. Brandon, Vt.; s. F. H. Farrington; address, Brandon, Vt.

Clinton Rufus Farr, 1899-1900.

b.—July 22, 1878; e. f. Northfield. Vt.; merchant; Westfield, Mass.

Harold Sherman Frost, 1898-1900.

e. f. Lyndonville, Vt.

***Eliot Granger.**

b.—Nov. 7, 1881; e. f. Roxbury, Mass.; s. F. E. Granger; d. 1903.

Arthur Weston Hair, 1899-1900.

b.—Aug. 1, 1880; e. f. Worcester, Mass.; Rodman Rapid Transit Commis.; New York City.

Francis Byron Judd, 1899-1901.

b. June 10, 1882; e. f. Des Moines. Iowa; s. Rev. Allen Judd; furniture business, Des Moines.

Louis Henri Janvrin, 1899-1903.

b.—Sept. 11, 1882; e. f. Saratoga Springs, N. Y.; farmer, Northfield, Vt.

***John Charles McCarty, 1899-1900.**

b—Jan. 3, 1881; e. f. Brasher Falls, N. Y.; d. 1901 of consumption.

Charles Louis Pelkey, 1899-1900.

b. — June 12, 1878; e. f. Waltham, Mass.; address, Boston, Mass.

Willis Garfield Prior, 1899-1900.

b—Nov. 18, 1879; e. f. Underhill, Vt.; civil eng. with Bert H. Prior '95, Worcester, Mass.

William Franklin Robinson, 1899-1900.

b—Oct. 27, 1880; e. f. Dorchester, Mass.; left N. U. to enlist in U. S. A.; 2nd Lt. 8th U. S. Inft., Ft. Niagara, N. Y.

Frederick Percival Rogers, 1899-1900.

b—Sept. 1, 1881; e. f. Orchard Lake, Mich

Fred Newman Snelling, 1899-1900.

b—May 13, 1881; e. f. Haverhill, Mass; address; Haverhill, Mass.

William Clarence Thompson, 1899-1902.

b. Northfield, Vt.; studying music Naples, Italy.

Francis Bowen Upham, 1899-1900.

b—March 24, 1881; left N. U. to enter West Point.

Merrill Dole Wheeler, 1899-1900.

b—April 29, 1882; left N. U. to enter West Point.

Harry Oakes Young, 1899-1900.

b—Oct. 20. 1880; e. f. Lancaster, N. H.; address, Seattle Washington.

1904.

Charles Franklin Gallup, B. S.

b. Woodstock, Vt.; asst. eng. with G. B. Markle Coal Co., Jeddo, Pa., 1904—.

Ralph Leon Gilman, B. S.

b. Chelsea. Vt.; asst. city eng., Montpelier, Vt.,1904—.

William Selden Hutchinson, B. S.

b. Enosburg Falls, Vt.; instrument man with R H. Ford, '92 on railway survey, to Bethel, (Vt.;) Granite Quarry's, 1904—.

Joseph Edmund McGreen, B. S.

b. Bellows Falls, Vt.; Chemist Casein Co. of America, 1904-05; chemist, Providence, R. I., 1905—.

Earl Dexter Perry, B. S.

b. Worcester, Mass.; asst. eng. on R. R. survey to Bethel (Vt) Granite Quarry's for C. V. R. R., 1904—; Pa. R. R. New York City, 1905—.

Homer Eyton Chase Rainey, B. S.

b—; e. f. Randolph, Vt.; eng. with the N. Y. Fire Insurance Exchange, 32 Nassau St., New York City.

George Christopher Randall, B. S.

b—; s. Clarence E. Randall '82; ch. train dispatcher; Wyoming Div., Colorado Southern R. R., Cheyenne, Wyo.

Guy Garfield Russell, B. S.

b. Hartland, Vt.; in business Ballardale, Mass.

William Elbridge Charles Washburn, B. S.

b. Northfield, Vt.; address, Washington, D. C.

Craig Oscar Burt, 1900-02.

b. Stowe, Vt.; lumber mfgr., Stowe, Vt., 1902—.

George Halliday Chapin, 1900-02.

b—; e. f. Melrose Highlands, Mass.; in business, 257 Washington St., Boston.

***George Eldridge Dunham, 1900-01.**

b. Worcester, Vt ; student M. I. T.; d. Boston, Mass., 1903.

Homer Ferrin, 1900-03.

b. Montpelier, Vt.; address, Montpelier, Vt.

Ira Liman Holden, 1900-01.

b. Northfield, Vt.

Ferdinand Leroy Maxwell, 1900-01.

b—; e. f. Northfield, Vt.

Royal Lee Mead, 1900-02.

b—; e. f. Madison, Montana; s. capt. Chas. W. Mead '81; priv. U. S. M. C.

John Kent Morris, 1900-03.

b—; Waldrop, Va.; address, Waldrop, Va.

Stanley Dayton Nichols, 1900-02.

b. Roxbury, Vt.; in business, Roxbury, Vt.

Nathan Lee Thomas, 1900-01.

b. Stowe, Vt.; insurance surveyor; Sanborn Map Co.. 11 Broadway, New York, N. Y.

William Oliver Tuck, Jr., 1900-01.

b—; e. f. Haverhill, Mass.; student M. I. T.; Boston, Mass.

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CINCINNATI

Sylvester M. Hewitt, 1840
Edward Denslow Upham, 1847

CLEVELAND

**John H. Sargent, 1837
Curtis Sawyer Barrett, 1863
Samuel Thomas Welman, 1860

GALENA

Jay Dyer, 1838

OHIO CITY

**Charles H. Sargeant, 1839

INDIANA

ELKHART

Walter S. Hazelton, 1864

FORT WAYNE

**Frederick Halsey McCullough, 1864

ROME CITY

John W. L. Tyler, 1847

TERRE HAUTE

Malverd Abijah Howe, 1882

ILLINOIS

BLOOMINGTON

Henry L. S. Haskell, 1846

CHAMPAIGN

Samuel Walker Shattuck, 1860

CHICAGO

Joseph E. Young, 1850
Guirdon S. Hubbard, 1856
Arba Nelson Waterman, 1856
Frank B. Fenton, 1857
Lloyd B. Fuller, 1864
Henry L. Slayton, 1864
Harlan P. Davidson, 1867
Edward W. Sawyer, 1868
Ralph Metcalf, 1864
William H. Best, 1873
Chas. Edward Field, 1874
Earl Henry Prince, 1886
Chas Edwin Austin, 1887
Fred S. Palmer, 1889

GALESBURG

John Van Ness Standish, 1847

KEWANEE

Elias Lyman, 1848

QUINCY

Frederick E. Ransom, 1868

MOLINE

James Edward Ainsworth, 1853

NORMAL

Wm. Partridge, 1849

WISCONSIN

CHIPPEWA FALLS

William R. Hoyt, 1864

EDGERTON

John Parker Towne, 1852

EUREKA

Henry Floyd, 1848

HUDSON

Samuel Curtis Simonds, 1852

LA CROSSE

Ellis P. Walcott, 1864

LAFAYETTE

Lorenzo Potter, 1856

MADISON

Geo. Edwin Bryant, 1854
Chas. Albert Curtis, 1861

OMRO

Chester J. Hurlbut, 1899
Wilber Edson Hurlburt, 1893

OSHKOSH

Herbert L. Sweet, 1894

WEST SUPERIOR

Fred Silas Parker, 1884

MICHIGAN

ADRIAN

Edward T. Smith, 1874

ANN ARBOR

Charles S. Deinson, 1869

BENTON HARBOR

Fred Rice Belknap, 1885

DOWAGIAC

Eben B Jewell, 1876

GOBBLEVILLE

Elmer A. Aseltine, 1889

IMLAY CITY

James Ernest Ross, 1894

MINNESOTA

**Luke E. Miller, 1841

DETROIT CITY

Cyrus Moses Johnston, 1873

FERGUS FALLS

Luther Loren Baxter, 1857

MINNEAPOLIS

Simeon E. Belknap, 1869-71
Horace A. Clifford, 1877

ST. PAUL

Lucius Hurlburt, 1840
Wm. Woodbury Howard, 1865

WALCOTT

Simon Chase Dow, 1838

IOWA

COUNCIL BLUFFS

Grenville Mellen Dodge, 1850

MARHALLTOWN

Henry John S. Howe, 1869

OTTUMWA

Wm. Haven, 1863

MISSOURI

SEDALIA

Arthur Payne Mowry, 1864

ST. LOUIS

Cyrus Barrett Burnham, 1839
Bernard G. Farrar, 1845
Chas. Horace Spooner, 1888
Charles P. Burr, 1867

KANSAS CITY

George F. Putnam, 1864

NORTH DAKOTA

ELLENSDALE

Phil Sheridan Randall, 1886

FARGO

Burleigh Fulsom Spaulding, 1877

SOUTH DAKOTA

HOT SPRINGS

Elmer Roland Juckett, 1889
Loomis S. Call, 1880

NEBRASKA

FREMONT

George Blood French, 1855

WYOMING

CHEYENNE

George C. Randall, 1904

DOUGLASS

George W. Metcalf, 1873

KANSAS

LAWRENCE

**Henry Hobart Gillum, 1850
Henry H. Howard, 1851
Oscar E. Learnard, 1855
Paul Addison Dinsmoore, 1898
Holland Wheeler, 1859

COLORADO

COLORADO CITY

Ralph Smith Dorr, 1850

DENVER

William E. C. Sweet, 1868
William H. Rollo, 1894
Philo Remington Hoefler, 1895

GREELEY

George J. Spear, 1873

NEW MEXICO

Adin H. Whitmore, 1864

UTAH

MONTICELLO

Edmund Henry Ryan, 1892

SALT LAKE CITY

Wesley Kimball Walton, 1867

OREGON

ASTORIA

Freeman Parker, 1847

WASHINGTON

SEATTLE

Simon Manly Preston, 1845
Horace C. Henry, 1864
Eugene Merwin Carr, 1879
Byron T. Carr, 1881
Harry O. Young, 1903

CALIFORNIA

**Winfield Scott Sherwood, 1837

FRESNO

Josiah Hall, 1861

PASADENA

John Benj. Johnson, 1879
Geo. Leslie Andrews, 1893

SACRAMENTO

** C.? N.? Baker, 1859

SAN FRANCISCO

William A. Treadwell, 1857
Charles Sleeper, 1864

SAN JUAN DE BAPTISTA

Charles Guy Cargill, 1864

SAN BERNADINO

George Edmund Otis, 1867
George W. Metcalf, 1873

LOS ANGELES

George W. Gifford,, 1888

U. S. NAVY

Geo. Dewey, 1855
Archibald S. Taylor, 1859
Geo. Albert Converse, 1863
Holland N. Stevenson, 1867
Geo. Partridge Colvovoresses, 1867
DeWitt Clinton Wevb, 1892
Hiram A Blarss, 1898
Burton Wm. Sibley, 1900
Robert Burns Farquharson, 1903
Seth Williams, 1903

U. S. ARMY

Edward Bancroft Williston, 1856
Henry Clay Wood, 1858
Edmund Rice, 1860
Chas. Albert Curtis, 1861
Chas. A. Coolidge, 1863
Lemuel Abijah Abbott, 1864
Dwight Henry Kelton, 1864
Benj. Kearney Roberts, 1865
Fred Thaddeus Austin, 1888
Edward Aiken Shuttleworth, 1891
George F. Bailey, 1892

Winfred Ballard Carr,	1897
Nathan A. Goodspead,	1898
Chas. Edward Wheatley,	1901
Frank Henry Burr,	1902
Robert Truman Phinney,	1902
Allan Rawson Williams,	1903
William F. Robinson,	1903

PHILIPPINE ISLANDS

MANILLA

Chas. Wright Meade,	1881
Erasmus A. Pond,	1892

WEST POINT

George Frank Waugh,	1901
Francis B. Upham,	1903
Merrill D. Wheeler,	1903

CANADA

DRUMMONDVILLE, P. Q.

Donald Wm. Sutherland,	1897

MONTREAL

Alvin Morton Bailey,	1872

AMHERST, N. S.

Henry L. Fullers,	1880

BEECHMONT, N. S.

Brownell Granger,	1857

CUBA

MONTANZUS

Nicholas Tauco,	1861

SANTIAGO

Emilio Guerra y Giro,	1903

ENGLAND

**John Harris,	1841

MEXICO

MONTEREY

Wm. Henry Wentworth,	1868

SOUTH AMERICA,—BRAZIL

RIO JANERIO

Aurin Ralph Shaw,	1889

ECUADOR

Chas. Horace Eaton,	1899

INDIA

CALCUTTA

Frank Whitney,	1864

The star (*) before the name indicates the death of a person. The double star (**) that no information has been received concerning the person.

ALPHABETICAL INDEX.

A.

1864 Abbott, Edward Stanley.
1891 Abbott, George Franklin.
1864 Lemuel Abijah.
1861 Abbott, Walter.
1891 Adams, Benjamin Henry.
1864 Adams, Edward Dean.
1839 Adams, George Bradley,
1865 Adams, Henry Harrington.
1830 Adams, James Hopkins.
1891 Adams, Seth Burton.
1853 Aiken, Walter.
1853 Ainsworth, James Edward.
1846 Alba, F.—— T.——
1899 Aldrich, Frank Leroy.
1873 Aldrich, George Jerome.
1900 Allen, Bert Frank.
1838 Allen, Edward.
1838 Allen, Horace Parkhurst.
1825 Allen, Joseph Dana.
1899 Allen, Leon Bernard.
1863 Alvord, Henry Elijah.
1824 Amory, Charles.
1859 Amsden, Frank Power.
1834 Amsden, Joel.
1903 Anderson, William Marsh.
1896 Andrews, Arthur Gilbert.
1893 Andrews, George Leslie.
1855 Andrus, Delano Franklin.
1889 Aseltine, Elmer Adelbert.
1864 Ashcroft, Charles Edward.
1846 Ashe, Thomas P.——
1900 Ashley, Sanford Harris.
1828 Astor, George P.——
1863 Atwood, Charles Henry.
1853 Atwood, Julius P.——
1887 Austin, Charles Edwin.
1893 Austin, Flyn Gurnsey.
1888 Austin, Fred Thaddeus.
1849 Averill, Clinton Spaulding.
1896 Averill, James Leland.

B.

1826 Babbitt, Jacob.
1873 Bailey, Alvin Morton.
1863 Bailey, George Alonzo.
1893 Bailey, George Frederick.
1903 Baker, Arthur Garfield.
1859 Baker, Charles N.
1826 Baker, Jonathan.
1879 Baker, William Franklin.
1853 Baldwin, Addison Richardson.
1903 Ball, Ernest Stearns.
1847 Balloch, George Williamson.
1891 Ballou, George Langdon.
1854 Bancroft, Howard Cornelius.
1901 Barclay, Douglass Monroe.
1903 Barker, Bertrand Dorr.
1903 Barker, Richard Fleming.
1845 Barnard, John Mills.
1863 Barrett, Curtis Sawyer.
1846 Barron, Horace Everett.
1878 Barstow, Frederick Meach.
1860 Bascom, Gustavus M.——
1864 Bascom, Warren Franklin.
1901 Bass, Fred Thompson.
1873 Bates, Frank Richard.
1855 Bates, William M.——
1879 Batchelder, Archie Mead.
1900 Batchelder, Charles.
1867 Batchelder, James Edwin.
1900 Batchelder, John Spaulding.
1851 Batchelder, Samuel.
1826 Baxter, Carlos.
1839 Baxter, Henry.
1867 Baxter, Henry Clay.
1856 Baxter, Jedediah Hyde
1851 Baxter, Luther Loren.
1824 Baxter, Portus.
1851 Baxter, William Rowe.
1828 Beach, William Augustus.
1841 Bean, Eli B.——
1898 Bearss, Hiram Idings.
1847 Beattie, David C.
1896 Beauclerk, William Preston.
1846 Belcher, William Caldwell.
1885 Belknap, Fred Rice.
1873 Belknap, Simon Edson.
1888 Belknap, William Orlando.
1849 Benjamin, William Wallace.
1846 Bennett, Alexande Moses.
1893 Bennett, Edward Cushman.
1873 Bennett, Frank Foster.
1867 Benson, Seth Henry.
1874 Best, William Herbert.
1885 Bettis, Horace Ingersoll.
1822 Bingham, Daniel Havens.
1846 Bishop, Linus Dewey.
1838 Bissell, George Henry.
1883 Blanchard, Edwin Oscar.
1843 Blanchard, Lemuel Winslow.
1903 Bletzer, Robert Arthur.
1847 Boardman, Napoleon.
1828 Baggs, Charles Stewart.
1827 Baggs, William Brenton.
1828 Bomford, James Vote.
1891 Booth, Alfred Frederick.
1894 Booth, Clarence Henry.
1898 Booth, Edwin.
1887 Booth, Ernest Victor
1902 Booth, Leon Frank.
1897 Booth, Louis Phillips.
1865 Bottomly, Frank Timothy.
1833 Bourleigh, Joseph Bartlett.
1861 Boutelle, George V.
1841 Bova, Alvan Earle.
1865 Boyd, John Curry.
1863 Bradley, Charles Oscar.
1894 Bradley, Lester Hadley.
1828 Bragg, Thomas.
1847 Breaux, Gustave Arvelien.
1846 Bridge, Norman Williams.
1903 Briggs, Harry Knight.
1896 Briggs, George Horace.
1855 Briggs, Samuel Edgar.

1844 Brigham, Henry O.
1859 Bringhurst, Thomas H.
1902 Brooks, Benjamin.
1896 Brooks, Charles Howard.
1899 Brooks, Hezekiah Kibbie.
1896 Brooks, William Granville
1823 Brooks, William J.——
1844 Brown, Edward Marcus.
1865 Brown, Leonard Boardman.
1897 Brown, Walter Egbert.
1854 Brownell, Thomas S.——
1903 Brownell, J mes Squire.
1822 Brownson, Orestes Augustus.
1854 Bryan , George Edwin.
1841 Buck, Ben.
1842 Buck, Oel Alfred.
1855 Buel, Bela Stevens.
1856 Buel, George Parsons.
1898 Bullock, Roy Atwood.
1898 Bump, Louis Charles.
1852 Burge, Royal Ladd.
1903 Burnette, Daniel Black.
1839 Bu ham, Cyrus Barrett.
1867 Burr, Charles Phillip.
1902 Burr, Frank Henry.
1846 Burt, Charles Willard.
1904 Burt, Cra gue Oscar
1873 Burt, Henry Augustus.
1837 Burton, Henry S.——
1855 Burton, William Smith.
1863 Bus Cha es Edmund.
1843 Bushell, Edward M. (?)
1847 Buswell, Albert.
1856 Buttrick, George.
1903 Byrd, John Henry.

C.

1825 Cady, Albermarle.
1893 Cady, Charles Alonzo.
1891 Cady, Heber Calvin.
1827 Cameron, Paul Carrington.
1871 Campbell, Charles Pawhattan.
1826 Campbell, William Simpson.
1864 Cargill, Cha es Guy
1896 Carleton, Ch rles Sargent.
1850 Carpenter, Charles Carrol.
1823 Carpenter, Edward William.
1882 Carr, Byron Thorp.
1901 Carr, Dean Orris.
1879 Carr, Eugene Merwin.
1897 Carr, Winifred Ba ard.
1895 Carru hers, Edgar Fletcher
1843 Cary, Henry H. —
1896 Caswell, Herbert Eugene.
1903 Causebrook, Henry Fitzgerald.
1891 Chadwick, Homer Royce.
1864 Claffin, Will m Henry
1903 Chamberlin, Albert Bailey.
1868 Chamberlin, James Knights.
1901 Chamberlin, Louis Franklin.
1861 Chandler, Edward Aiken.
1885 Chandler, Myron Lemuel.
1844 Chandler, William Wallace.
1904 Chapin, George Halliday.
1855 Chase, Arthur.
1903 Chase, Elroy Albert.
1847 Chase, Francis (Xavier).
1903 Chase, Heman Baker.
1903 Chase, H nry Albert.
1886 Cheney, Charles Herman.
1865 Child, Oscar Barron
1891 Child, Robert Alexander.
1858 Child, Jonathan (?) Webster.
1897 Child, William Arthur.
1824 Clapp, Asa W.—— H.——
1892 Clark, Ephraim Wesson.
1889 Clark, Fred Howe.
1838 Clark, George H.——
1901 Clark, George Henry.
1901 Clark, Harry Guy.
1867 Clark, Henry Clay.
1842 Clark, Hiram.
1896 Clark, Herbert Sawyer.
1844 Clark, Thomas.
1857 Clark, Warren.
1859 Clark, W.—— J.—— (see De Poincy).
1846 Cleaver, DeWitt Clinton.
1846 Cleaver, John Oliver.
1872 Clement, Waldo Park
1881 Cleveland, Harry Lewis.
1877 Clifford, Horace Alonzo.
1894 Clogston, Leo Bertram.
1897 Clogston, William Emmerson.
1837 Cobb, David Bryant Bliss.
1891 Cobb, Edward Malcolm.
1845 Cobb, Nathan Bryant.
1889 Cobleigh, George Herbert.
1834 Colburn, Zera.
1846 Cole, Daniel Baehr.
1890 Collins, Charles Edward.
1896 Collins, John Leslie.
1831 Colvocoresses, George Musalas.
1867 Colvocoresses, George Partridge.
1848 Comings, David Lawrence M.——
1872 Conant, Samuel Dimmock.
1881 Conn, Frank Winslow.
1854 Conn, George Priest.
1863 Converse, George Albert.
1887 Cook, Arthur Cushman.
1898 Cook, James Wilbur.
1861 Coolidge, Charles A.——
1842 Coon, Squire P
1855 Cowdin, Robert Jackson.
1865 Cowles, Henry E. S.
1825 Coyle, Randolph.
1892 Craigue, Joseph Spafford.
1898 Crapser, Clinton Nathaniel.
1824 Craven, Thomas Tingey.
1843 Crooker, Jabez Cushman.
1889 Cross, Herbert Nelson.
1859 Cross, Samuel Hazzard.
1846 Cross, Edwin C.——
1840 Crowell, Edward.
1841 Crowningshield, Charles B.—— (?)
1845 Crowningshield, John C.—— (?).
1880 Cull, Loomis Stevens.
1844 Cunningham, James.
1852 Currier, Samuel Hammond.
1861 Curtis, Charles Albert.
1837 Curtis, Joseph W.— (?).
1877 Curtis, William Russell.
1896 Cushman, Arthu Hall.
1825 Cushman, Henry Wyles.
1839 Cushman, Isaac Newton.
1868 Cutter, William Richard.

D.

1899 Dale, Edward Merrifield.
1849 Dana, Stillman Emerson.
1890 Dane, Homer John.
1844 Danforth, William Cullen.
1873 Danville, Harry Warren.
1867 Davidson, Harlan Page.
1895 Davis, Charles Horace.
1882 Davis, Charles Marsh.
1895 Davis, Fred Carnot.
1839 Davis, John B.—— (?)

1850 Davis, Job Francis.
1839 Davis, Mitchell M.—— (?)
1888 Davis, Nathaniel Reene.
1900 Davis, Norris Mead.
1842 Davis, William Watts Hart.
1873 Davis, William Alanson.
1850 Day, John S.—— (?)
1848 Dearing, Charles H.——
1881 Dearing, George Emerson.
1859 Delafield, Walter.
1845 Denison, Charles Edward.
1869 Denison, Charles S.—— (?)
1898 Denison, Frank Winslow
1868 Denison, Joseph Dudley.
1852 Denniston, Charles Young.
1888 Denny, arry Simmons.
1891 Denny, Ralph Boynton.
1859 De Poincy, Warren Joynes, (see Clark, W. J.)
1842 Derby, George H.—— (?)
1824 De Wolf, John James.
1855 Dewey, George.
1865 Dewey, John Jasper.
1855 Dewey, John W.—— (?)
1877 Dewey, Thomas.
1863 Dewey, William Strong.
1813 Dicks, John W —— (?)
1898 Dinsmore, Paul Addison.
1848 Dixon, Luther S.—— (?)
1850 Dodge, Grenville Mellen.
1864 Dodge, William Aseph.
1891 Dole, Carl Gilman.
1869 Dole, Charles.
1877 Dole, Harry Christopher.
1896 Dole, Harry Ray.
1890 Dole, Heman Ellsworth.
1870 Dole, Walter.
1895 Donahue, Frank James.
1896 Donnelly, George.
1889 Dooley, William John.
1841 Dorn, Andrew Jackson.
1824 Dorr, Ralph Smith.
1850 Dorr, Ralph Smith.
1873 Dorr, William Ripley.
1878 Douglass, Benjamin Hall.
1877 Douglass, David Bates.
1878 Douglass, Francis.
1895 Dow, Ray Storrs.
1845 Dow, Roswell.
1838 Dow, Simon Chase.
1890 Dressel, Herman, Jr.
1900 Driscoll, William.
1903 Brown, Frank Steel.
1878 DuBois, Frederick Earl.
1898 Duggan, Charles Edward.
1897 Dunham, Henry Vail.
1904 Dunham, George Eldridge.
1900 Dunsmoor, Ralph Wales.
1903 Dunton, Arthur John.
1841 Dustin, Daniel H.—— (?)
1846 Dutton, Albert R.——
1838 Dyer, Jay.

E.

1841 Eastman, Cogswell.
1903 Eastman, Gilbert Clarence.
1873 Eastman, Paris Augustus.
1866 Eaton, Benjamin Brially.
1899 Eaton, Charles Horace.
1891 Eaton, Francis Arthur.
1841 Eaton, Robert Bradford.
1861 Eayre, Thomas Wilkins.
1887 Edgerton, Frederick Tyler
1876 Edson, George Edward.
1902 Edwards, George Benjamin Jonathan.
1852 Elliott, George Henry.
1898 Ellis, George Harold.
1901 Ellis, rving Clendenen.
1868 Ellis, Nathaniel Webster.
1888 Ellis, Pearl Lewis.
1897 Ellis, William Arba.
1852 Emery, Harvey Webster
1854 Ensign, William H.——
1846 Ensworth, Charles E.——
1836 Estabrook, Alonzo Flagg.
1864 Estey, Julius Jacob.
1890 Evans, Charles John Clement.
1898 Evans, George Douglass.
1861 Ewart, James King (?)

F.

1891 Farnham, Berton Wiley.
1903 Farr, Clinton Rufus.
1826 Farrand, Ebenezer.
1845 Farrar, Bernard, G.—— (?)
1856 Farrar, Frederick Howard.
1903 Farrington, William Reynolds.
1903 Farquharson, Robert Burns.
1837 Fay, Cyrus Hyde.
1840 Fell, Thomas B.—— (?)
1857 Fenton, Frank B.—— (?)
1904 Ferrin, Homer.
1874 Field, Charles Edward.
1900 Field, Everett Howard.
1860 Field, George W.—— (?)
1867 Fiske, William.
1852 Fletcher, Albert A.
1857 Fletcher, Frederick Fayette.
1839 Fletcher, Friend Perry.
1887 Fletcher, Paris Moore.
1824 Fletcher, Ryland.
1841 Flint, Ephraim.
1877 Flint, Frank Gardner.
1903 Flint, Kemp Russell Blanchard.
1848 Floyd, Henry.
1865 Folsom, George Albert.
1839 Folsom, Gilman.
1852 Ford, Charles Jackson.
1892 Ford, Robert Henry P.——
1850 Foss, Obed.
1859 Foster, Edwy Wells.
1903 Foster, John Harold.
1838 Frary, Solon Franklin.
1828 Frazer, John Fries.
1837 Frazer, Robert.
1823 Freelon, Thomas William.
1856 Freeman, Frederick Norton.
1855 French, George Blood.
1903 Frost, Harold Sherman.
1842 Frizelle, Joseph Washington.
1864 Fuller, Lloyd Byron.
1880 Fuller, Harry Louis. (Henry Leman).
1903 Fuller, Samuel Leslie.
1902 Fuller, Willard Lyman. (Lynn)
1856 Fullerton, William H.—— (?)

G.

1864 Galbraith, Frederick William.
1904 Gallup, Charles Franklin.
1826 Gardiner, Robert Hallowell.
1893 Gaynor, Eben Watson.
1853 George Benjamin Franklin.
1834 George Samuel K.——

1864 Gerrish, William.
1894 Gibson, Ernest Willard.
1888 Gifford, George Walter.
1870 Gilbert, Alfred Briggs.
1837 Gilbert, Horatio Gates.
1828 Gilbert, William Bradford.
1891 Gilder, Matthew Irving.
1850 Gillum, Henry Hobart.
1867 Gilman, Brodie Benjamin.
1889 Gilman, Elbridge Wheleer.
1904 Gilman, Ralph Leon.
1839 Gilson, George Washington.
1840 Gilson, James Martin.
1836 Gleason, Amasa.
1892 Gleason, Benjamin Whitney.
1849 Gleason, Newell.
1898 Gleason, Thomas Bernard.
1840 Glover, Wilson.
1803 Gokey, Frank Albert.
1891 Goodhue, Fred Miner.
1857 Goodrich, Levi W.—— (?)
1841 Goodrich, Nathaniel E.—— (?)
1898 Goodspead Nelson Allen.
1855 Gorman, Thomas.
1888 Goss, Harry Hale.
1849 Gould, Jacob Parker
1865 Goulding, Joseph Hiram.
1849 Gore, Jesse Augustus.
1867 Gowdy, Francis Marion.
1857 Granger, Brownell.
1864 Granger, Edward Myron.
1903 Granger, Eliot.
1849 Granger, Lyman Couch.
1901 Grant, Charles Hobart.
1850 Gray, Ormando Wyllis.
1897 Gray, Ransom Augustus.
1853 Greeley George Preston.
1834 Green, Cogswell Kidder.
1852 Greenwood, William Henry.
1873 Gregg, Charles Alexander.
1873 Gregg, Fred Wallace.
1864 Gregory, Charles Daniel.
1837 Grice, Samuel B.—— (?)
1872 Griffith, Charles Greenleaf.
1852 Griswold, Charles Edward.
1868 Grosvenor, Robert.
1904 Guerra, Emilio y Giro.

H.

1903 Hair, Arthur Weston.
1845 Hale, John Augustus.
1827 Hale, Reuben Charles.
1855 Hall, Alfred Gordon.
1839 Hall, James A—— (?)
1861 Hall, Josiah.
1847 Hall, William Henry Harrison.
1878 Halsey, Henry Joseph T.——
1843 Hancock, Henry.
1841 Harris, John.
1841 Harris, Joseph.
1823 Harris, William G.—— (?)
1857 Hart, Elias Burton.
1828 Hartstene, Henry J.——
1846 Haskell, Henry Louis S.——
1887 Hassam, Walter Edwin.
1876 Hatch, Frank Clark
1869 Hathaway, Clarence Lockwood.
1824 Hathaway, Guildford H.—— (?)
1863 Haven, William.
1902 Hawkesworth, Charles Wesley.
1825 Hayes, Augustus Allen.
1857 Hayes, Samuel Dana.
1863 Hayes, William B.—— (?)
1888 Hayward, Fred Farnham.
1864 Hazelton, Walter Scott.
1901 Hazen, Carl Danforth.
1845 Hemenway, Stillman.
1861 Henderson, Thomas Albert.
1864 Henry, Horace Chapin.
1853 Herrick, Henry Osgood.
1885 Hersey, Henry Blanchard.
1840 Hewitt, Sylvester M.—— (?)
1878 Hiland, Frank Eugene.
1865 Hill, Augustus Villeroy.
1897 Hill, Guilford Henry.
1867 Hill, Howard Freemont.
1894 Hinman, Harvey Levi.
1859 Hitchcock, Robert E.—— (?)
1881 Hobbs, George Taft.
1858 Hobbs, George Washington.
1902 Hobson, Harry Mansur.
1893 Holbrook, Frank Dudley.
1823 Holbrook, John.
1823 Holbrook, John Colvin.
1895 Hoefler, Philo Remington C.——
1829 Hoke, Michael.
1894 Holden, Howard Clinton.
1904 Holden, Ira Liman.
1884 Holland, James Michael.
1902 Holland, Timothy, Jr.
1850 Holley, Henry Whitcomb.
1826 Holmes, Arthur Fisher.
1895 Holmes, John Albert.
1875 Hooper, William.
1836 Horr, Josiah Wood.
1825 Horton, Valentine B.—— (?)
1865 Houghton, Edmund Charles.
1865 Howard, Henry Augustus.
1852 Howard, Henry H.—— (?)
1860 Howard, Noel Byron.
1839 Howard, Sumner Africus.
1865 Howard, William Woodbury.
1843 Howe, Asa.
1880 Howe, Frank Lee.
1869 Howe, Henry John S.——
1882 Howe, Malverd Abijah.
1883 Howe, Wilbur Clark.
1898 Howes, Herman Carpenter.
1895 Howes, Phil Sheridan.
1863 Hoyt, Charles Arthur.
1864 Hoyt, William Romeo.
1856 Hubbard, George Watts
1856 Hubbard, Guirdon S.——
1830 Hubbard, Henry Griswold.
1852 Hubbard, William Henry.
1894 Hulburd, Leroy Chittenden.
1857 Hunsdon, Charles.
1869 Hunt, William Henry.
1856 Huntington, William R.——
1895 Huntley, Walter George.
1873 Huntoon, George Lemuel.
1899 Hurlbut, Chester James.
1840 Hurlbut, Lucius.
1867 Hurlbut, Myron Robert.
1839 Hurlbut, Waltcer B.——
1893 Hurlbut, Wilbur Edson.
1902 Hutchinson, Adelbert Anson.
1904 Hutchinson, William Selden.

I.

1861 Irish, Nathaniel.
1889 Irish, Robert Liston.
1829 Irving, Sanders.
1829 Irving, Washington.
1828 Iturbide, Augustine de.

J.

1836 Jackman, Alonzo.
1903 Janvrin, Louis Henry.
1842 Jennison, John Fuller.
1884 Jenkins, Robert B.—— (?)
1876 Jewell, Eben Barlow.
1868 Johnson, Alexander Bryan.
1925 Johnson, Edwin Ferry.
1879 Johnson, John Benjamin.
1888 Johnson, Luther Burnham
1873 Johnston, Cyrus Moses.
1862 Jones, Edward Treadway.
1881 Jones, Henry Martin.
1828 Jones Pringle.
1889 Juckett, Elmer Roland.
1890 Judkins, John Huntoon.
1903 Judd, Francis Byron.

K.

1845 Kellogg, Edmund Brush.
1862 Kellogg, Theodore Harvey.
1847 Kellogg, William Pitt.
1864 Kelton, Dwight Henry.
1847 Kendall, Paul Raymond.
1864 Kent, Charles Nelson.
1854 Kent, Henry Oakes.
1828 Kidder, Jefferson Parish.
1860 Kilbourn, Byron Hector.
1844 Kimball, Edward A.— —
1872 Kimball, Francis Zeno.
1859 King, Wallace Albert.
1851 Kingsbury, Charles Franklin.
1856 Kingsley, Levi Gleason.
1840 Knight, Sumner.

L.

1898 Ladd, Joseph Howard.
1865 Ladd, William Fowle.
1889 Lamb, Fred Ellsworth.
1901 Lance, Joseph Theron.
1850 Lander, Frederick William.
1839 Lane, Moses.
1864 Lasier, Thomas Jefferson.
1858 Laurence, Arthur.
1828 Lee, Roswell Walter.
1843 Lee, Stephen Berry.
1842 Lee, William Little.
1825 Lee, William Raymond.
1854 Leland, Oscar Hopestill.
1855 Learnard, Oscar Eugene.
1901 Learnard, Percy Putnam.
1838 Lewis, Charles Denison.
1855 Lewis, Charles Hildreth.
1889 Dexter Wadleigh.
1832 Lewis, William Enos.
1840 Lewis, John W
1886 Lewis, Walter Evans.
1838 Lillie, Jehiel.
1850 Lincoln, Francis Miner.
1839 Lincoln, Joshua (T.)
1851 Lindsay, Daniel.
1867 Lindsay, Winslow Metcalf.
1831 Little, George.
1850 Little, Richard Sullivan.
1839 Livermore, Jarius.
1839 Livingstone, William.
1855 Long, Charles Hatch.
1842 Longnecker, Henry Clay.
1855 Lord, Charles V.—— (?)
1864 Lord, Robert Chandler.
1830 Loudon, Henry Adolphus.
1899 Lovell, George Prentice.
1892 Lunderville, Isadore Nelson.
1848 Lyman, Elias 1st.
1823 Lyman, George.
1848 Lyman, George Briggs.
1839 Lyon, Caleb.

M.

1881 Maddock, William Smith.
1841 Major, Augustine Langdon C.
1893 Manuel, Frank Alden.
1868 Marseilles, Charles.
1837 Marsh, Benjamin Franklin.
1878 Marsh, Edward Sprague.
1829 Marsh, Luther Rawson.
1842 Marsh, Otis Mason.
1838 Marsh, Samuel.
1857 Martin, Henry Oakes (?)
1839 Marvin, Asa Crosby.
1839 Marvin, Josiah.
1893 Mattison, Hiram Nathaniel.
1898 Maxwell, Charles Robert.
1904 Maxwell, Ferdinand Leroy.
1850 Mayo, Calvin.
1896 McCarty, Edward Michael.
1887 McCarty, Elmer Daniel.
1903 McCarty, John Charles.
1853 McCollester, John Quincy Adams.
1851 McCollester, Sullivan Holman.
1864 McCulloch, Frederick Halsey.
1904 McGreen, Joseph Edmund.
1876 McIlwaine, Theodore Chardavoyne.
1827 McKay, James.
1837 McLean, Eugene Eckel.
1867 McLoud, John Henry.
1832 McNabb, John.
1845 McNeill, Edwin.
1881 Mead, Charles Wright.
1851 Mead, John Baldwin Thayer.
1904 Mead, Roya Lee.
1864 Mead, William Rutherford.
1884 Mellen, Calvert King.
1846 Merrick, Roswell Elijah.
1859 Merriman, Cyrus M.—— (?)
1857 Merriman, DeForest Holt.
1873 Metcalf, George Wallace.
1864 Metcalf, Ralph.
1903 Metzger, Fritz Louis.
1841 Miller, Luke E.—— ?)
1845 Miller, Orlando Dana.
1845 Milroy, John Brown.
1843 Milroy, Robert Houston.
1883 Miner, George Roberts.
1833 Miner, Alonzo Ames.
1856 Mitchell, John.
1838 Moore, John Harvey.
1873 Moore, John Robert.
1864 Moores, Fred Walter.
1823 Moores, John W.——
1864 Morey, Arthur Paine.
1829 Morgan, Junius Spencer.
1846 Morris, Edward Weston.
1841 Morris, Henry Villiers.
1904 Morris, John Kent.
1854 Morris, Thomas E.—— (?)
1889 Morse, Frank Arthur.
1828 Morse, Isaac Edward.
1866 Morton, Charles.
1895 Moseley, Harry Chester.
1899 Moseley, John Poole.
1863 Moses, Rufus Leander.

1851 Mower, Albian Jabez.
1891 Mower, ra Rich.
1846 Mower, Joseph An hony.
1892 Mowry, Jesse Benton.
1901 Mullin, Norbert Vincent.
1854 Munson, William Day
1901 Murch, George Dana.
1847 Murphy, James Garfield.
1839 Murray, Ch lton.
1838 Murray, John C.——
1840 Myrick, Cyrus Gardiner.

N

1841 Nalle, Benjamin Franklin.
1866 Needham, William Chauncey H.——
1847 Nevins, George Washington.
1845 Newman, William Addison.
1873 Newton, Benjamin Ball.
1901 Newton, Leonard, Melvin.
1886 Nichols, Charles Henry.
1839 Nichols, Samuel, Jr.
1904 Nichols, Stanley Doyton.
1847 Nichols, Stephen H.—— (?)
1884 Nickerson, Thomas Henry.
1829 Noble, William Henry.
1828 North, Ralph L.——
1845 Nourse, Ira.

O.

1863 Ober, George Hawes.
1855 Olcott, George.
1847 Oliver, Caleb.
1902 Orser, Henry Ward.
1864 Osgood, Charles Henry.
1867 Otis, George Edmund.
1828 Owen, Thomas R. - -
1871 Owen, William Griffith.

P.

1863 Page, A—— (?) H.—— (?)
1858 Page, Frank A——(?)
1889 Palmer, Fred Simeon.
1840 Palmer, Philander.
1867 Papante, Augustus Lorenzo.
1859 Parker, Charles E. —- (?)
1859 Parker, Edgar.
1880 Parker, Frank Henry.
1847 Parker, Freeman.
1884 Parker, Fred Silas.
1847 Parker, John Gideon.
1898 Parker, Leonard Joel.
1847 Parker, Wilder W.- - -
1827 Parrowt, (Parrott), William P.- - - (?)
1863 Parsons, John William.
1903 Parsons, Stanley John.
1832 Partridge, Frederick W —— (?)
1838 Partridge, Lewis S. - - -
1849 Partridge, William.
1900 Patterson, Albert Charles.
1863 Patterson, Rody.
1843 Paul, William Patterson.
1823 Paulding, Hiram.
1903 Peabody, Harry Arthur.
1852 Peake, Peverill S.—— (?)
1855 Peake, Willis R. - - (?)
1893 Pease, Oren Luther.
1902 Peck, Martin William.
1846 Peirce, Horace Truman Hanks.
1850 Peirce, Lafayette Washington.
1846 Peirce, Lucius Darwin.
1903 Pelky, Charles Louis.
1828 Pell, Duane.
1828 Pell, Livingstone.
1828 Pell, Robert L.—— (?)
1824 Perkins, Hamilton Elliott.
1846 Perkins, Marshall.
1904 Perry, Earl Dexter.
1880 Peters, Edward McClure.
1864 Phelps, Dudley Farley.
1822 Phelps, Edward Elisha.
1855 Phelps, Egbert.
1864 Phillips, Henry Moses.
1826 Phillips, Philip.
1862 Phillipes, Walter A.——
1902 Phinney, Robert Truman.
1892 Pierce, Charles Warner.
1861 Pierce, Frank Curtis.
1841 Pierce, Henry.
1893 Pierce, Warren Alexander.
1901 Pi lsbury Jesse Albert.
1901 Pingree, William Steele.
1874 Pitman, Edward Pancost.
1889 Plastridge, Walter Scott.
1854 Platt, Jonas Henry (?)
1854 Platt, Zephaniah.
1896 Plumley, Charles Albert.
1892 Pond, Erasmus Arlington.
1838 Pool, Benjamin.
1900 Poor, Mark Leonard.
1826 Porcher, Frederick Adolphus.
1885 Porter, Frank B.—— (?)
1867 Porter, James Ezekiel.
1843 Post, Eugene Jerome.
1893 Potter, Arthur Seymour.
1866 Potter, Charles H.—— (?)
1845 Potter, Daniel S.—— C.—— M.
1856 Potter, Lorenzo.
1903 Powers, John Tinney.
1827 Prescott, Edward Goldsborough
1845 Preston, Simon Manley.
1886 Prince, Earl Henry
1895 Prior, Bert Henry.
1903 Prior, Will s Garfield.
1889 Prior, Wright Seth.
1864 Putnam, George Frederick.
1846 Putnam, James Wellington.

Q.

1880 Quimby, Albert Brown.
1902 Quimby, Arthur Pettigrew.
1891 Quimby, Charles Edwin.

R.

1904 Rainey, Homer Eyton Chase.
1883 Ramsey, John Wesley.
1882 Randall, Clarence Eugene.
1904 Randall, George Christopher.
1886 Randall, Phil Sheridan.
1887 Ranney, Archie Joel.
1828 Ranney, Henry J.—— (?) or (S.?)
1851 Ransom, Dunbar Richard.
1868 Ransom, Frederick Eugene.
1851 Ransom, Thomas Edward Greenfield.
1825 Ransom, Truman Bishop.
1866 Reed, Charles Henry.
1867 Reed, Charles Montgomery.
1848 Reynolds, Asa.

1860 Rice, Edmund.
1865 Rice, Thomas Greenfield,
1863 Rich, Clayton Eugene.
1900 Rich, Richard George.
1853 Richards, Eber.
1865 Richards, John Swift.
1841 Richardson, David.
1900 Richardson, Jeffers Foster.
1861 Richardson, Julius R.—— (?)
1876 Richardson, Waldo Henry.
1900 Richmond, Harold Samuel.
1891 Riggs, Clarence Bonnett.
1860 Robbins, Henry Alfred.
1865 Roberts, Benjamin Kearney.
1865 Robertson, John.
1901 Robertson, William Everett.
1849 Robinson, Calvin Lewis.
1822 Robinson, Moncure.
1903 Robinson, William Franklin.
1903 Rogers, Frederick Percival.
1894 Rollo, William Hazelton.
1894 Ross, James Ernest.
1840 Roundy, Alvin.
1876 Rumbaugh, William Moser.
1893 Rushlow, John.
1824 Russ, John Denison.
1904 Russell, Guy Garfield.
1828 Russell, William Huntington.
1892 Ryan, Edmund Henry.
1895 Ryan, John Michael.

S.

1863 Sabin, Albert.
1868 Sabin, George K.——
1826 Sanford, William R.—— (?)
1868 Sawyer, Edward Warren.
1864 Sawyer, Francis Asbury.
1874 Saxe, Franklin James.
1857 Sayles, Charles Foster.
1855 Schall, John M.——
1895 Schiffer, Harry Creswell.
1871 Scott, Adrian.
1896 Scribner, Carroll John.
1828 Seaton, Augustus Fitzwhyllsgon.
1859 Seaver, Thomas O.—— (?)
1826 Sedgwick, Theodore.
1845 Sessions, Milan Hibbard.
1828 Seymour, Horatio.
1828 Seymour, Horatio.
1828 Seymour, H.—— (?)
1829 Seymour, Thomas Henry.
1844 Seymour, Truman.
1864 Shattuck, Abbott Allen.
1839 Shattuck, Lemuel.
1860 Shattuck Samuel Walker.
1889 Shaw, Aurin, Ralph.
1891 Shaw, Ethan Allen.
1888 Shaw, William Alden.
1838 Shedd, Johnson.
1840 Shedd, Joseph W.—— (?)
1851 Shedd, Solon.
1840 Shedd, Warren.
1873 Sheldon, Archie Lorenzo.
1884 Sheldon, Ned Louis.
1842 Shepard, Benjamin Franklin.
1838 Sherrill, George Barker.
1878 Sherman, Henry Leslie.
1837 Sherwood Winfield Scott.
1841 Shields, James Van Allen.
1827 Shipp, Bernard.
1891 Shuttleworth, Edward Alken.
1900 Sibley, Burton William.
1841 Silver, Charles Alexander.
1870 Silver, Robert Alexander.
1852 Simonds, Samuel Curtis.
1828 Simmons, Seneca Galusha.
1896 Skinner, Leon Anson.
1838 Slack, Charles.
1847 Slafton, Judson.
1864 Sleeper, Charles.
1862 Sleeper, Van Beuren
1806 Small, Ruel.
1851 Smalley, Henry Adams.
1865 Smart, Charles Henry.
1856 Smith, Augustus E. —— (?)
1874 Smith, Edward Taylor.
1830 Smith, Isaac Townsend.
1848 Smith, George C. —— (?)
1837 Smith, James Bradley.
1865 Smith, Jesse Bishop.
1881 Smith, Marshall Davis.
1900 Smith, John Theodore.
1853 Smith, Nathan Abial Chauncey.
1891 Smith, Percy Gates.
1894 Smith, Raymond Underwood.
1850 Smith, Sumner Timothy.
1837 Smith, Timothy Dwight.
1903 Snelling, Fred Newman.
1897 Spafford, William Clarence.
1877 Spaulding, Burleigh Franklin.
1873 Spear, George John
1878 Spooner, Charles Horace.
1877 Sprague, William Tolman.
1891 Sprague, William Hibbard.
1847 Standish, John Van Ness.
1829 Stanley, Edward.
1850 Stanyon, John Minot.
1829 Starr, Elihu William N.—— (?)
1860 Starr, William.
1876 Stearns, John Kerswell.
1894 Stearns, Hal Holmes.
1902 Stebbins, Laurence Bernard.
1865 Stebbins, Marshall Burton.
1859 Steadman, Joseph.
1872 Steadman, William Lemuel.
1857 Steele, Benjamin Hinman.
1863 Steele, Charles Edward.
1882 Steele, Fred Elton.
1877 Stephens, Robert Manson.
1841 Stevens, Justin Edward.
1865 Stevenson, Holland Newton.
1884 Stewart, Harry Denison.
1886 Stewart, Rowland Wardwell.
1866 Stiles, Eli Gowdy
1903 Stocker, Marshall Morrill.
1894 Storrs, George Eber.
1842 Storrs, Hiram M. —— (?)
1861 Stoughton, Charles Bradley.
1852 Stowell, Edwin S. ——
1837 Streeter, Joseph Herman.
1837 Streeter, Sebastian Russell.
1851 Strobel, Louis M. ——
1856 Strong, William H. —— Chase.
1902 Strong, Frank.
1828 Sturtevant, Edwin.
1897 Sutherland, Donald William
1895 Sweat, Leon Ira
1872 Swett, James Wheeler.
1837 Swett, Josiah.
1865 Stoddard, Edward Lathrop.
1843 Stone, William Ripley.
1891 Sweeney, Henry Charles.
1868 Sweet, William Ellery Channing.
1894 Sweet, Herbert Livingstone.
1865 Sweetser, James Vermilyea.
1902 Swenson, Alfred.

T.

1898 Talbot, George Everett.
1862 Tanco, Nicholas.
1854 Tarr, Daniel B. —— (?)
1870 Tarbell, Charles Gilman.
1839 Tarbell, Jonathan.
1823 Tatnall, Josiah.
1859 Taylor, Archibald S. —— (?)
1874 Taylor, D'Orsey.
1841 Taylor, Josiah D. ——
1826 Taylor, George W. ——
1825 Temple, Robert H. ——
1845 Tenney, Otis Seth.
1889 Terrill, Willis Ethel.
1895 Terrill, Arthur Leon.
1876 Thayer, Arnold.
1877 Henry Bates.
1883 Thayer, Herbert Edgar.
1876 Thomas, George Delbert.
1902 Thomas, George Edward.
1854 Thomas, Ha topp 'ercell.
1895 Thomas, Fred Ba nes.
1904 Thomas, Nathan Lee.
1895 Thomas, Samue Adrian.
1827 Thompson, Charles Stockbridge.
1842 Thompson, Daniel J P.
1827 Thompson, Ebenezer
1903 Thompson, William Clarence.
1864 Thorndike, Charles Francis.
1837 Tilden, Joseph G. —— (?)
1864 Tillinghast, 'harles Foster.
1848 Tilton, Charles El lo
1888 Tinker, Jona han Eugene.
1865 Tolles, Clarence Weston.
1827 Totten, George Muirson.
1852 Towne, John 'ark r.
1857 Treadwell W iam Augustus.
1828 Trowbridge, Thomas Ru herford.
1853 Truax, Sewall.
1904 Tuck, William Oliver Jr.
1847 Tucker, George
1847 Tucker, William Howard
1840 Tullar, Daniel.
1852 Tupper, Charles (Calvin? R. or K. ?
1899 Tupper, John Lewis.
1845 Tutherly, William Everett.
1883 Tyler, George Erastus.
1857 Tyler, George Otis.
1848 Tyler, John W. —— L. ——
1826 Tyng, James Higginson.

U.

1874 Upham, Edward Dean.
1904 Upham, Francis Bowen.

V.

1825 Van Ness, James.
1827 Van Rensellaer, Henry.
1828 Van Wyck, Edward H. —— (?)
1828 Van Wyck, Thomas W. — —
1855 Vermilye, Washington R. ——
1863 Vernam, William Spencer.

W.

1859 Walcott, Charles Tylor.
1864 Wolcott, Ellis Pitcher.
1864 Walcott, Franklin Hamilton.
1825 Wales, Thomas Beale.
1897 Walker, Charles Ernest.
1868 Wallingford, Charles R. —— (?)
1867 Walton, Wesley Kimball.
1823 Ward, James Harmon.
1866 Ware, John Murray.
1901 Wardner, James Macomber.
1895 Warren, Dean Clyde.
1841 Warren, Stephen N. —— (?)
1904 Washburn, William Elbridge Charle
1825 Washington, Thomas Blackburn.
1894 Wason, Harlan Badger.
1856 Waterman, Arba Nelson.
1898 Watson, Frank Edward.
1901 Watson, Guy Henry.
1901 Waugh, George Frank.
1889 Way, Henry Truman.
1892 Webb, DeWitt Clinton.
1824 Webber, Sumner Allen.
1899 Webster, Fred Aldrich.
1843 Webster, Nathan Burnham.
1867 Wellman, Samuel Thomas.
1826 Welles, Gideon.
1865 Wentworth, Charles Eben.
1868 Wentworth, William Henry.
1828 Wessells, Henry Walton.
1848 Weston, Edmund Jr.
1901 Wheatley, Charles Edward.
1828 Wheeler, Asa Jr.
1859 Wheeler, Holland.
1903 Wheeler, Merrill Dole.
1840 Wheeler, Simeon.
1898 Wheelock, Clarence Dean.
1867 Wheelwright, Charles Storey.
1847 Whipple, Solomon Mason.
1837 Whipple, Thomas Jefferson.
1842 Whitcomb, Henry H. —— (?)
1849 White, Henry Barnet.
1841 White, Thomas Williams.
1894 Whiteside, George Duff.
1868 Whiting, Frank Mortimer.
1868 Whitmore, Adin Hamlin.
1867 Whitmore, Arthur Herbert.
1864 Whitney, Frank.
1866 Whittier, James Anson L.
1903 Wilkins, Robert Lee.
1870 Willard, George Morrison.
1900 Willey, Frederick Fullerton.
1903 Williams, Allan Rowson.
1840 Williams, Seth.
1903 Williams, Seth.
1849 Williams, William M. —— (?)
1822 Williston, Ebenezer Bancroft.
1856 Williston, Edward Bancroft.
1884 Wilmarth, Daniel Edwin.
1881 Wilmarth, William Howard.
1848 Wilson, Alfred C. —— (?)
1841 Winn, John.
1898 Winslow, Arthu Ellsworth.
1881 Win on, David Terry
1865 Wood, Charles Henry.
1856 Wood, Henry Clay.
1839 Wood, Joungs Vall.
1891 Woodruff, Harrison Gordon.
1878 Woodward, Julius Hayden.
1852 Woodward, Solomon Erskine.
1825 Woodworth, Hiram P. ——
1838 Wooley, James S. —
1857 Worthen, Harry Niles.
1847 Wright, Charles Rolla.
1839 Wright, Chauncey.
1838 Wright, Collins.
1829 Wright, David Minton.
1852 Wright, Franklin.
1842 Wright, Joseph Cornwall.
1851 Wright, Leonard Jarvis.
1849 Wright, Thomas Foster.
1832 Wright, William O. —— (?)
1850 Young, Joseph E. ——
1903 Young, Harry Oakes.

Partial List of Roads upon which Graduates and Past Cadets Norwich University have been employed as Consulting, Co structing, Chief, Assistant or Division Engineers.

Albany Northern,
American Central,
Arequipa & Puna (Peru),
Auburn & Syracuse,
Baltimore & Ohio,
Boston & Lowell,
Boston & Providence,
Boston & Worcester,
Burlington & Missouri,
Camden & Atlantic,
Cincinnati Western,
California & Texas,
Canton-Hankow (China),
Cayuga & Susquehanna,
Central Vermont,
Central Military Tract,
Chicago & Alton,
Chicago & Danville,
Chicago & Northwestern,
Cincinnati, Peru & Chicago,
Cleveland & Pittsburg,
Columbus, Piqua & Indiana,
Connecticut & Passumpsic,
Connecticut Valley,
Corpus Christi, San Diego & Rio Grande,
Dallas & Wichita,
Delaware & Western,
Denver & Gulf,
Denver Pacific,
Denver, Texas & Fort Worth,
Des Moines & Northern,
Des Moines & Northwestern,
Drummond Co. (Quebec)
Elkhorn,
Everett & Monte Cristo,
Hartford & Springfield,
Hoosac Tunnel & Saratoga,
Housatonic,
Houston & Texas Central,
Houston, East & West Texas,
Hudson River,
Huntington & Broad Top,
Illinois & Wisconsin,
Illinois Central,
Indianapolis, Peru & Chicago,
International & Great Northern (Texas),
Iona & Lansing,
Jeffersonville,
Junction City & Fort Kearney,
Kansas Central,
Kansas City & Southern,
Kansas City, Emporia & Southern,
Kansas City, Memphis & Mobile,
Kansas City Street Railway,
Kansas Pacific,
Lackawanna & Bloomsburg,
Lake Ontario Shore,
Leavenworth, Lawrence & Fort Gibson,
Lee & Hudson,
Mahoney & Susquehanna,
Manchester & Keene,
Mansfield, Coldwater & Lake Michi gan,
Marietta & Cincinnati,
Marion & McPherson,
Massachusetts Central,
Memphis & Charleston,
Memphis & La Grange,
Mexican Central,

Fitchburg,
Fort Wayne & Chicago,
Fort Worth & Denver City,
Gilman, Clinton & Springfield,
Grand Rapids & Lake Shore,
Guatemala Central,
Minneapolis & Duluth,
Mineral Belt,
Minneapolis & Northwestern,
Minneapolis & St. Cloud,
Mississippi and Missouri,
Missouri, Kansas & Texas,
Mobile & Ohio,
Monterey & Mexican Gulf,
Montpelier & Wells River,
Mount Washington (N. H.).
Nashville & Decatur,
New Jersey Central,
New Orleans & Pacific,
Oregon Short Line,
Penn Yann, Keuka Park & Branchport,
Peoria Branch, Rock Island,
Peoria & Burlington,
Peoria & Oquawka,
Pittsburg, Fort Wayne & Chicago,
Pittsfield & North Adams,
Plattsburgh & Montreal,
Pueblo and Arkansas Valley,
Pueblo & Salt Lake,
Racine & Mississippi,
Rock River Valley Union,
Rutland,
Rutland & Burlington,
Mexican International,
Mexican National,
Mexican Southern,
Milwaukee & Lake Winnebago,
Milwaukee & Mississippi,
Milwaukee & Watertown,
St. Croix & Lake Superior,
St. Louis, Kansas City & Northern,
St. Paul & Chicago,
St. Antonio & Mexican Gulf,
San Francisco (Missouri),
Saratoga & Whitehall,
Sedalia, Warsaw & Southern,
Shepaug Valley,
Silver City Branch, Santa Fe System,
Southern Minnesota,
Sugar River,
Sullivan,
Sunbury & Erie,
Suncook Valley,
Texas Pacific,
Toledo, Oscaloosa & Western,
Transia (Mexico),
Union Pacific,
Utica & Oswego,
Utica & Schenectady,
Vermont & Canada,
Vermont Central,
Vicksburg & Meridian,
Wabash,
Waterbury & Stowe,
West End (Boston),
Whitehall & Plattsburgh,
Wilmington & Reading,

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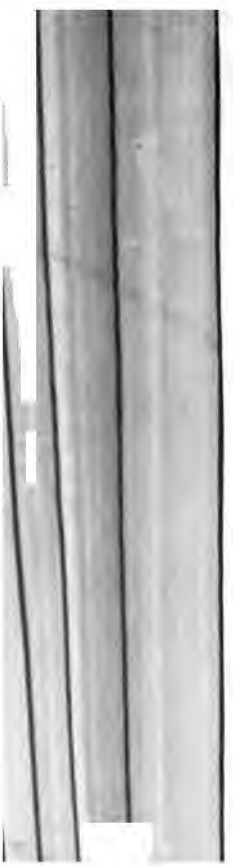

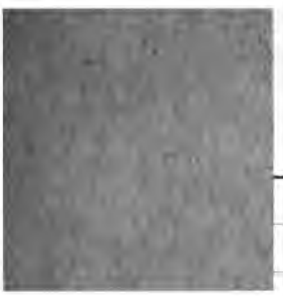

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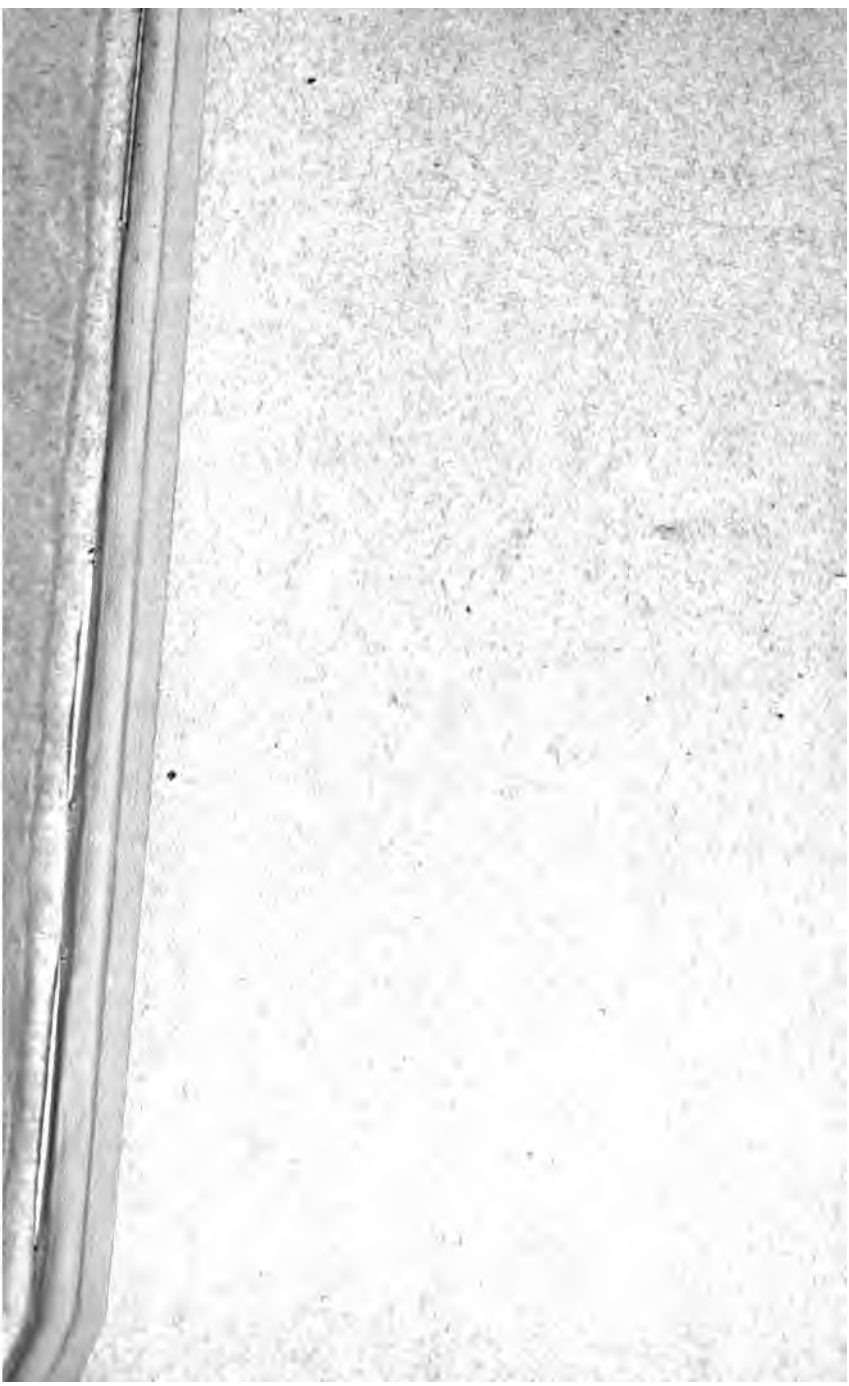
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